

Biesse
Machinery

Metal

Product Portfolio



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Founded in Italy in 1969
International natives

We are an international company that manufactures lines, machinery and components for making products, enhancing the potential of a wide range of materials.

Thanks to our rooted competence nurtured by an ever-growing worldwide network, we support your business evolution - empowering your imagination.

Master of materials

We simplify your
manufacturing process
to make the potential
of any material shine

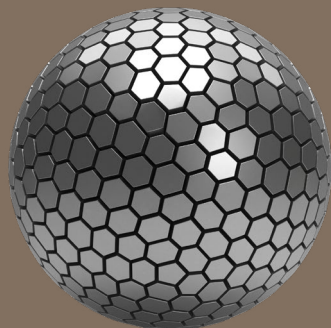
Join the
Biesse world.

biesse.com



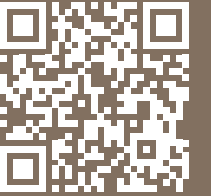
Metal

We manufacture metal processing machines to create components across multiple sectors, ranging from design to industrial fields.



Discover
all our machines
for wood

biesse.com



Tekni

Machines

Identify in a few words
the most suitable machine
for your needs from
our product portfolio.

Machining type

Segment

Cut

Cutting

Pro

Distinctiveness
and performance

Up

Agility and
expertise

Go

Simplicity and
compactness

Tekni

Tekni is the range of stand-alone machines for metalworking, designed for unmatched versatility and creative freedom.

Tekni machines flexibly meet the needs of laboratories, companies, and large industries, simplifying production processes across various industrial sectors.



Tekni
Cut Pro

Machining Types

A machining operation
for every requirement

The machining types represent
the different kinds of machining
operation, and define the
specific end purpose or
application of an operation.



Cutting

Waterjet solutions
for any metal cutting.

Segment

Your needs,
our skill

Your daily challenges feed our experience, as they enable us to get to know your requirements, your production dynamics and your spaces.

In order to respond to your needs, we have designed a portfolio of products to guide you in the most appropriate choice for you.

Pro

Distinctiveness and performance

Pro represents excellence in terms of performance, designed for customers who wish to distinguish themselves with the latest-generation solutions that they choose.

Up

Agility and expertise

The perfect choice for managing custom production requirements. The Up solutions combine advanced flexibility and functionality, guaranteeing efficient responses to constantly-evolving production challenges.

Go

Simplicity and compactness

The Go solutions are designed for those looking for compact, easy-to-install machines that are simple to use. Ideal for those looking for a practical, immediate approach.

Cutting

Waterjet solutions
for any metal cutting.



Recap

Waterjet

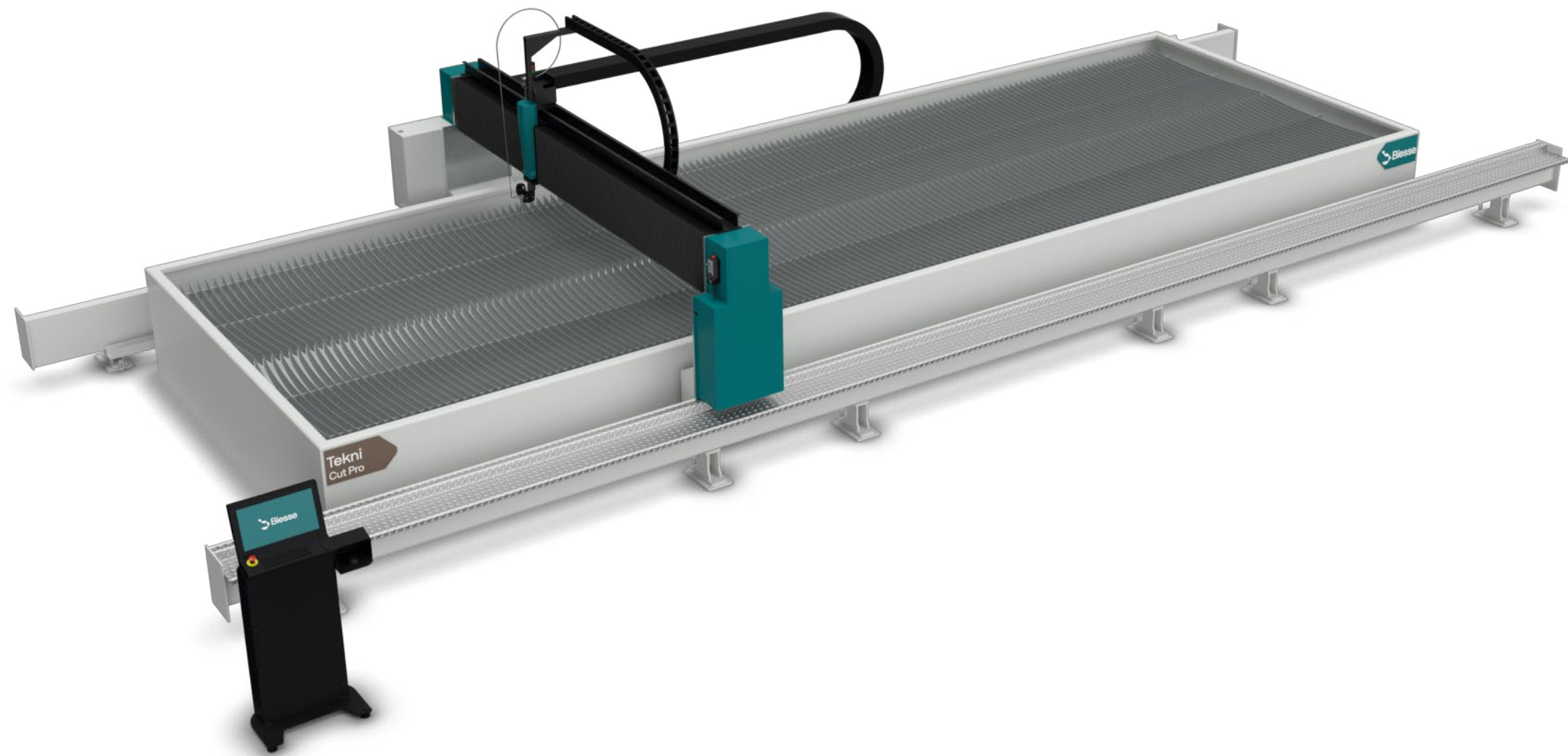
Product Brand	Model	Segment
Tekni	Tekni Cut Pro J L	Pro
	Tekni Cut Pro J G	Pro
	Tekni Cut Pro J M	Pro
	Tekni Cut Pro J C	Pro
	Tekni Cut Up J G	Up
	Tekni Cut Up J M	Up
	Tekni Cut Go J C	Go

Tekni

Tekni Cut Pro J L

Powerful surge,
limitless capability

The modular-style waterjet system that combines technology, precision and productivity. Its scalable design, with modular axis and tanks, allows for customization in length and width, meeting specific needs like multiple carriages. Process materials up to 175 mm thick with the power of up to 6000 bar pressure.



All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

5-axis cutting head with height detector

Patented direct drive DC servo motor technology for the 4th & 5th axis for positioning accuracy of ± 0.1 degrees with rapid acceleration and positioning speeds.

Electric servo pump 7,4 l/min at 4500 bar or 6,0 l/min at 6000 bar

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Automatic nesting

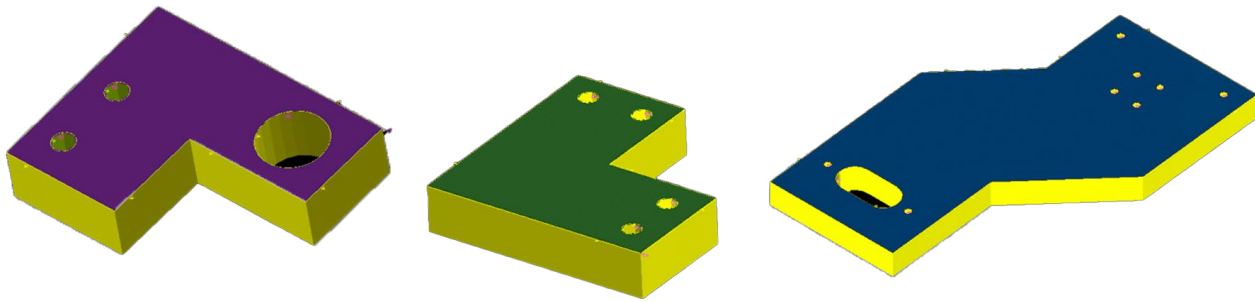
Optimize material usage and boost productivity with advanced automatic nesting features.

Linear scale feedback

Enhanced accuracy and repeatability for exceptional precision and superior part quality.

All-in-one software

The brain of the machine is our proprietary waterjet software, designed to make every step of programming effortless. From start to finish, everything is managed within a single, intuitive platform built specifically for waterjet applications. Say goodbye to switching between different programs; the software streamlines the process to save you time and boost efficiency.



Key features include:

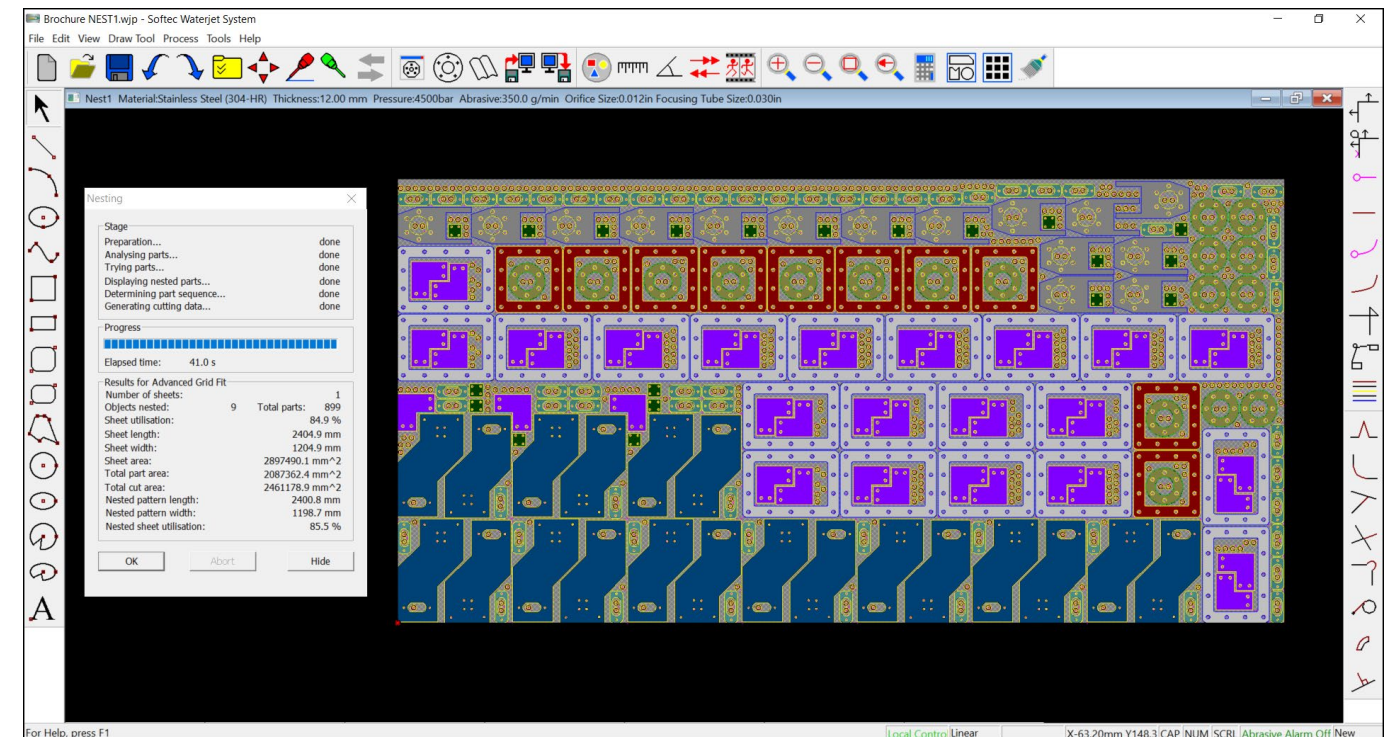
- CAD package
- DXF and STEP file import
- 3D view with 360° object rotation
- Five edge quality options
- Multiple piercing choices
- Costing & estimating tools
- Real-time running simulation
- Engraving Capabilities

The control panel is designed for comfort and ease of use, featuring a 21" ergonomic multitouch color display, silicone keyboard, LAN connection for remote support, and a USB port for additional devices.

Electric servo pump 7,4 l/min at 4500 bar or 6,0 l/min at 6000 bar

The heart of the machine is the Ultra High-Pressure ESP pump. The Electric Servo Pump is a groundbreaking system that leverages core "direct servo" technology, replacing traditional hydraulic cylinders with highly compact, efficient, and reliable servo linear actuators. Its patented design ensures a constant supply of demand pressure to the cutting head, delivering smoother edges and reducing garnet consumption with every cut.

The servo motor uses energy only when generating water stream pressure and flow, requiring just 2 amps to maintain pressure while providing instant high-pressure water when the cutting head opens. This makes our pump the most efficient on the market, and the only waterjet pump fully compliant with today's eco-friendly standards, offering future-proof technology.



Automatic nesting

The advanced nesting features are engineered to optimize material usage and simplify the cutting process. Parts are automatically arranged onto sheets in the most efficient layout, minimizing waste and maximizing productivity. With intuitive editing tools like 'drag and drop', users can quickly adjust layouts, rotate parts, delete items, or modify cutting order. These capabilities provide flexibility to adapt to changing needs, ensuring an efficient workflow.

Key nesting features include:

- Common line cutting
- Sheet utilization percentage
- Multiple sheets
- Multiple remnant options

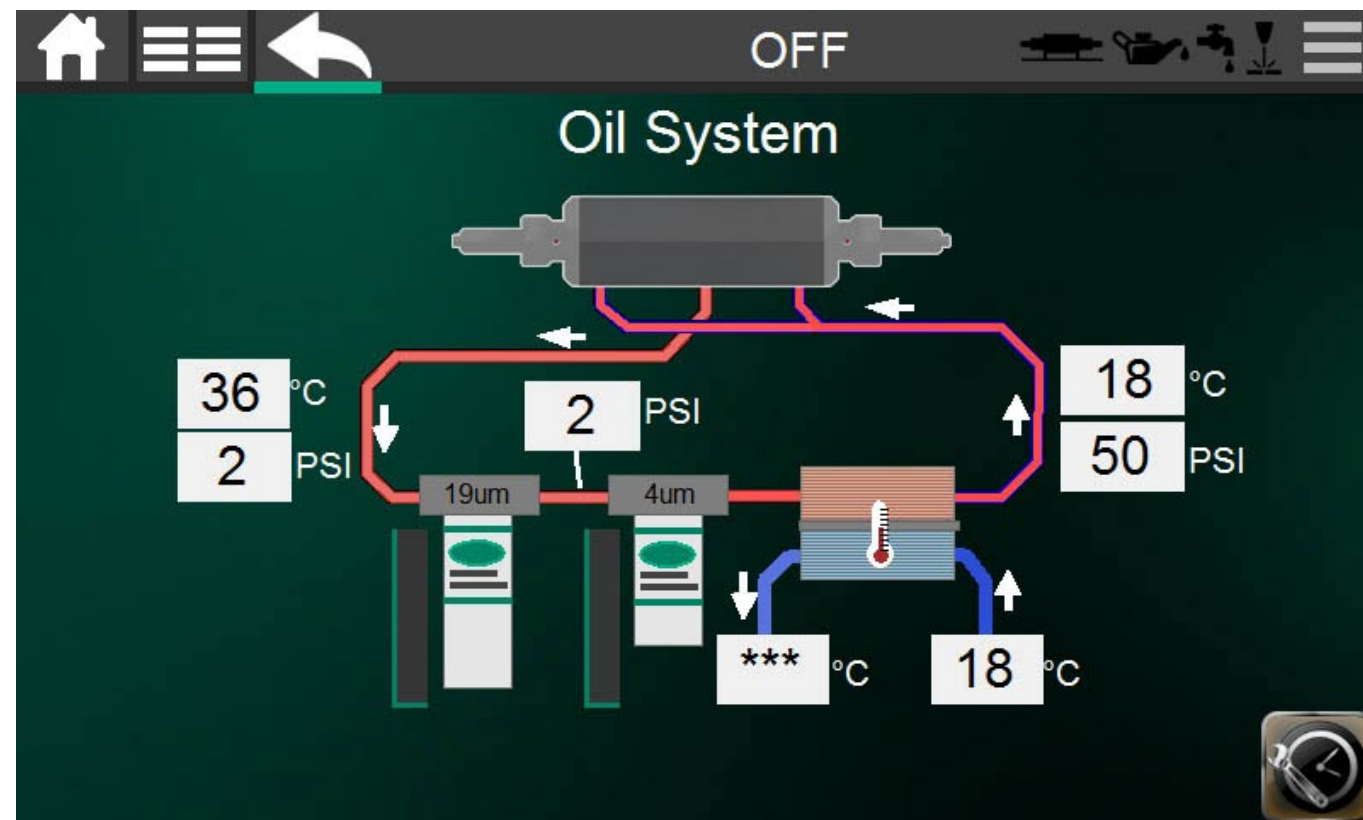




5-axis cutting head with height detector

Our 5-axis head delivers true angles of up to ± 60 degrees with continuous rotation, ensuring that no matter the geometry of the part, it will be reproduced without needing to reposition the cutting head. This saves time and enhances quality. Its operating software integrates a TruCut algorithms database that automatically determines the optimal cutting speed for any material and thickness, guaranteeing the desired surface finish. This eliminates the taper typically seen in waterjet cutting, offering "Precision Angle Control" for every part produced.

The height detector ensures precise stand-off before piercing, and can also measure the flatness of the material to make automatic adjustments in the "Z" height, maintaining consistent accuracy while cutting.



ESP advanced diagnostics

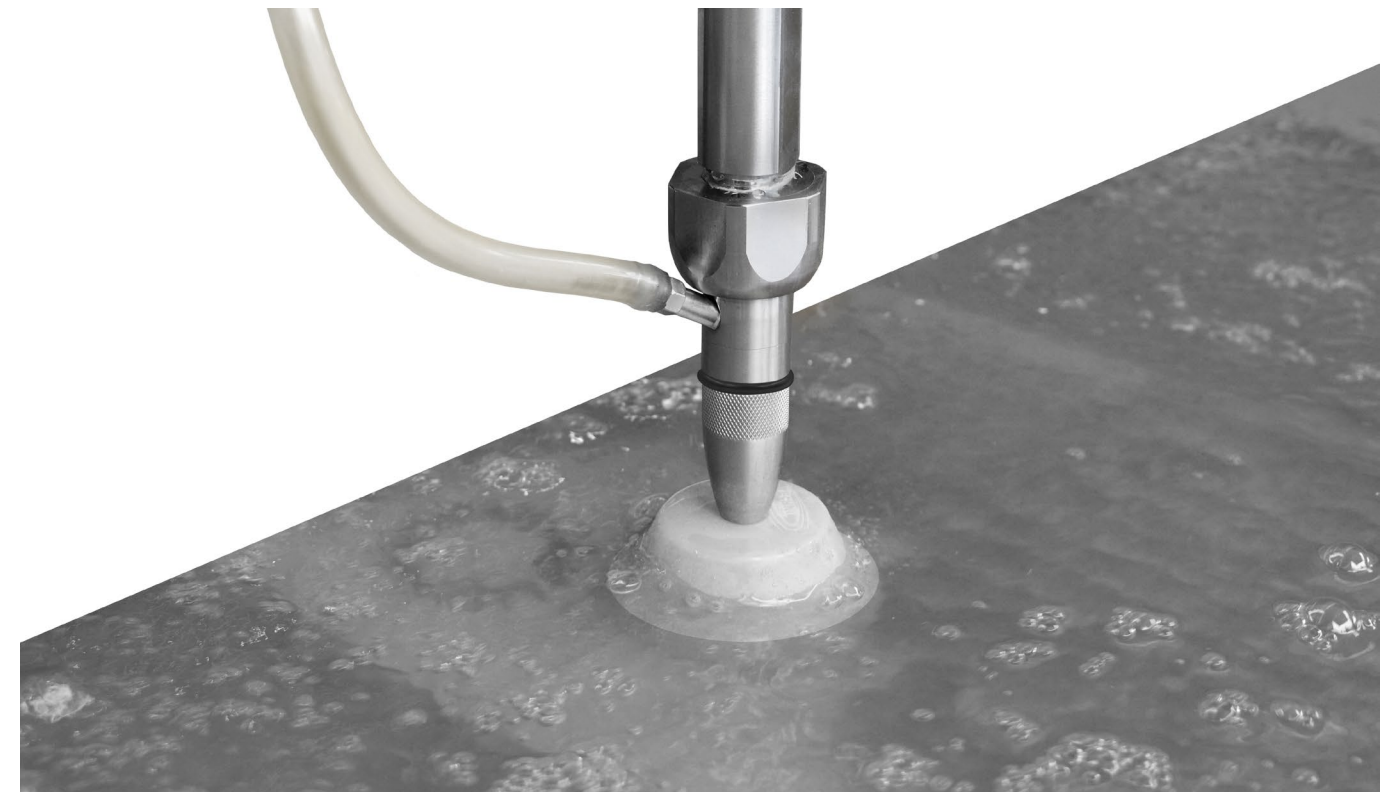
The ESP Power Series is equipped with sensors that provide data to algorithms capable of predicting potential part failures across all pump circuits. With its built-in router, the pump can be monitored remotely by our technicians anywhere in the world via the WHMI interface, ensuring fast

and effective troubleshooting. This technology enables predictive maintenance, minimizes downtime, and streamlines the troubleshooting process, making it the smartest waterjet pump available.

Submerged cutting

The tank features airtight welds and an air chamber that uses standard shop air pressure, allowing you to raise the water level for submerged cutting with just the push of a button. A typical abrasive waterjet stream travels over three times the speed of sound, creating noise levels above 100 dB due to turbulent air flow. Submerging the material

reduces operating noise to around 78 dB, well below safety limits. Additionally, the abrasive jet stream can create a mist during piercing that settles on the workpiece when the material isn't submerged. Submerged cutting helps keep the work area cleaner by containing the mist in the water, reducing contamination.



Software feature

Our waterjet software seamlessly incorporates engraving into the cutting process. Ready to use right out of the box, it offers customizable options for flexibility and precision. Engraving is made possible by the precise control over cutting head pressure provided by the Electric Servo Pump, along with our variable abrasive feeder. This innovation unlocks new opportunities for customization and personalization, allowing you to mark parts with serial numbers, logos, or other identifiers, all while eliminating the need for secondary processes.

Straight and bevel cutting

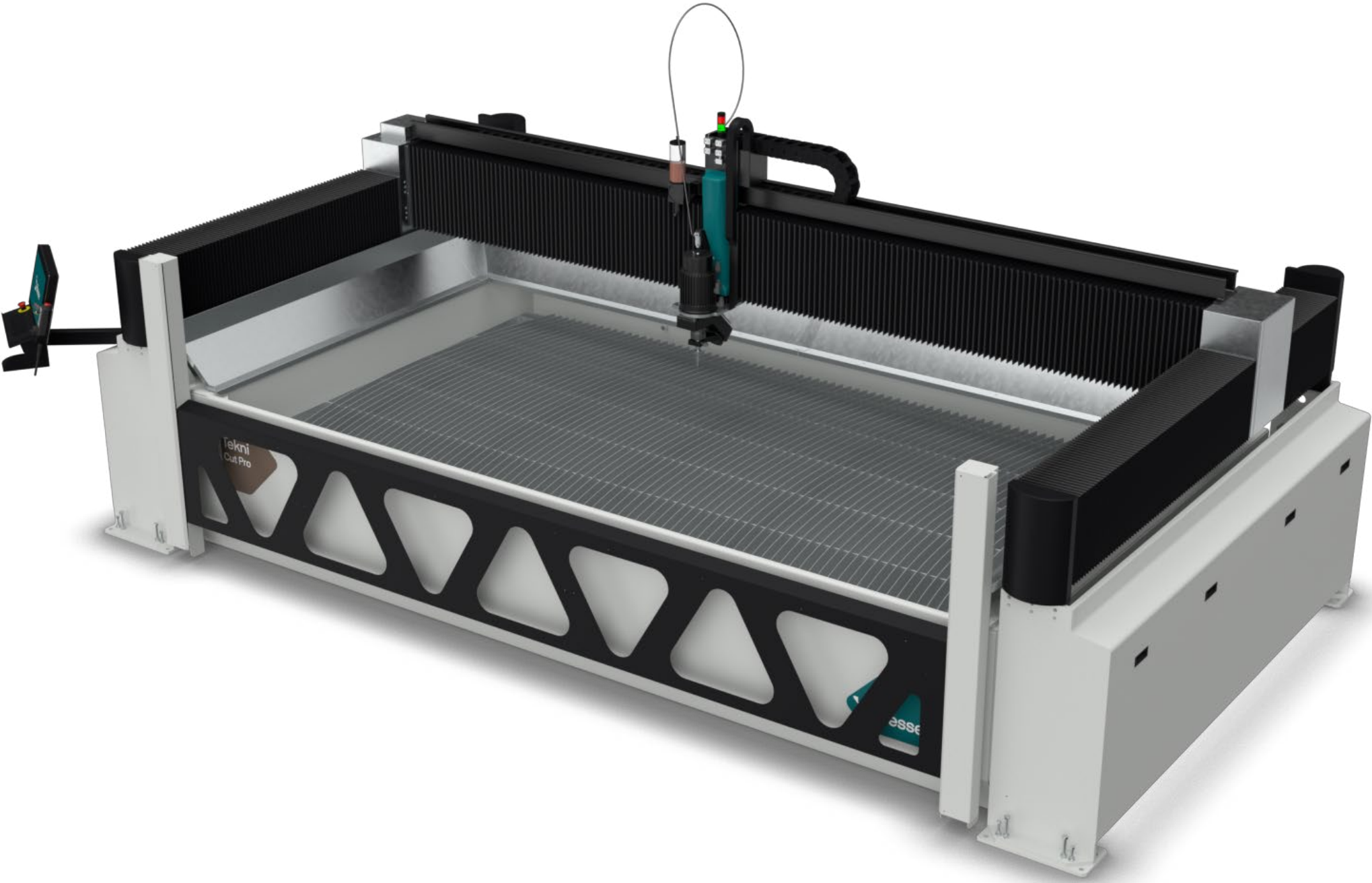
Achieve straight cuts with enhanced precision when cutting thicker materials and produce bevel cuts up to ± 60 degree with auto compensation for specific materials selected. Our 5-axis head ensures positioning accuracy within ± 0.1 degrees, delivering rapid acceleration and swift positioning speeds for superior performance.

Tekni

Tekni Cut Pro J G

Deep power,
unshakable accuracy

The gantry-style waterjet system that combines technology and precision, providing an outstanding solution for achieving exceptional results on large metal sheets. Process materials up to 200 mm thick with the power of up to 6000 bar pressure.



All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

5-axis cutting head with height detector

Patented direct drive DC servo motor technology for the 4th & 5th axis for positioning accuracy of ± 0.1 degrees with rapid acceleration and positioning speeds.

Electric servo pump 3,8 l/min at 4500 bar or 3,0 l/min at 6000 bar

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Automatic nesting

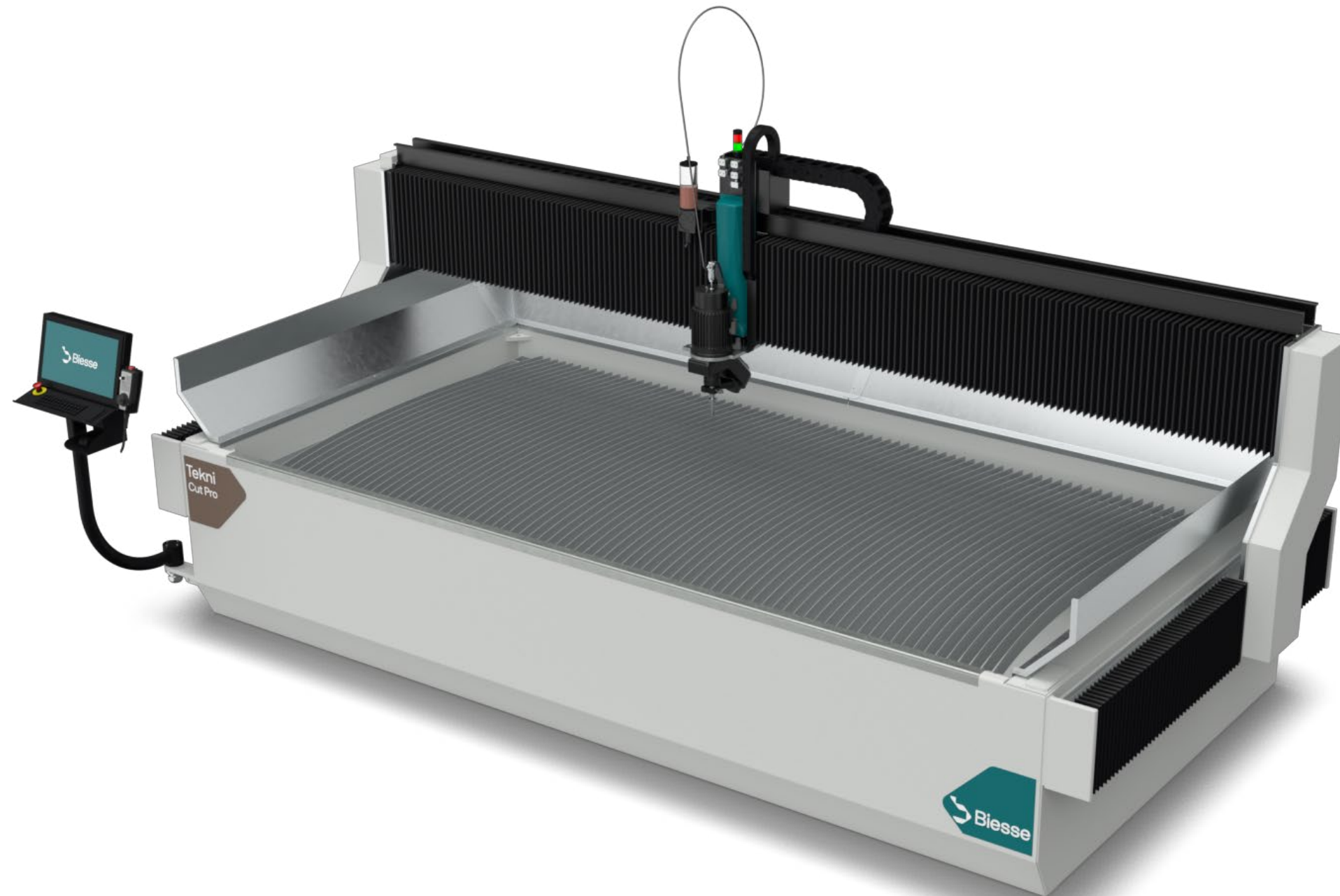
Optimize material usage and boost productivity with advanced automatic nesting features.

Linear scale feedback

Enhanced accuracy and repeatability for exceptional precision and superior part quality.

Tekni

Tekni Cut Pro J M



Steady currents, elevated performance

The monobloc-style waterjet system for achieving bevel cuts on most common material sheets. With its motion system integrated into the tank, it's optimized for quick shipping and installation. Process materials up to 130 mm thick with the power of 4500 bar pressure.

All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

5-axis cutting head with height detector

Patented direct drive DC servo motor technology for the 4th & 5th axis for positioning accuracy of ± 0.1 degrees with rapid acceleration and positioning speeds.

Electric servo pump 3,8 l/min at 4500 bar

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Automatic nesting

Optimize material usage and boost productivity with advanced automatic nesting features.

Linear scale feedback

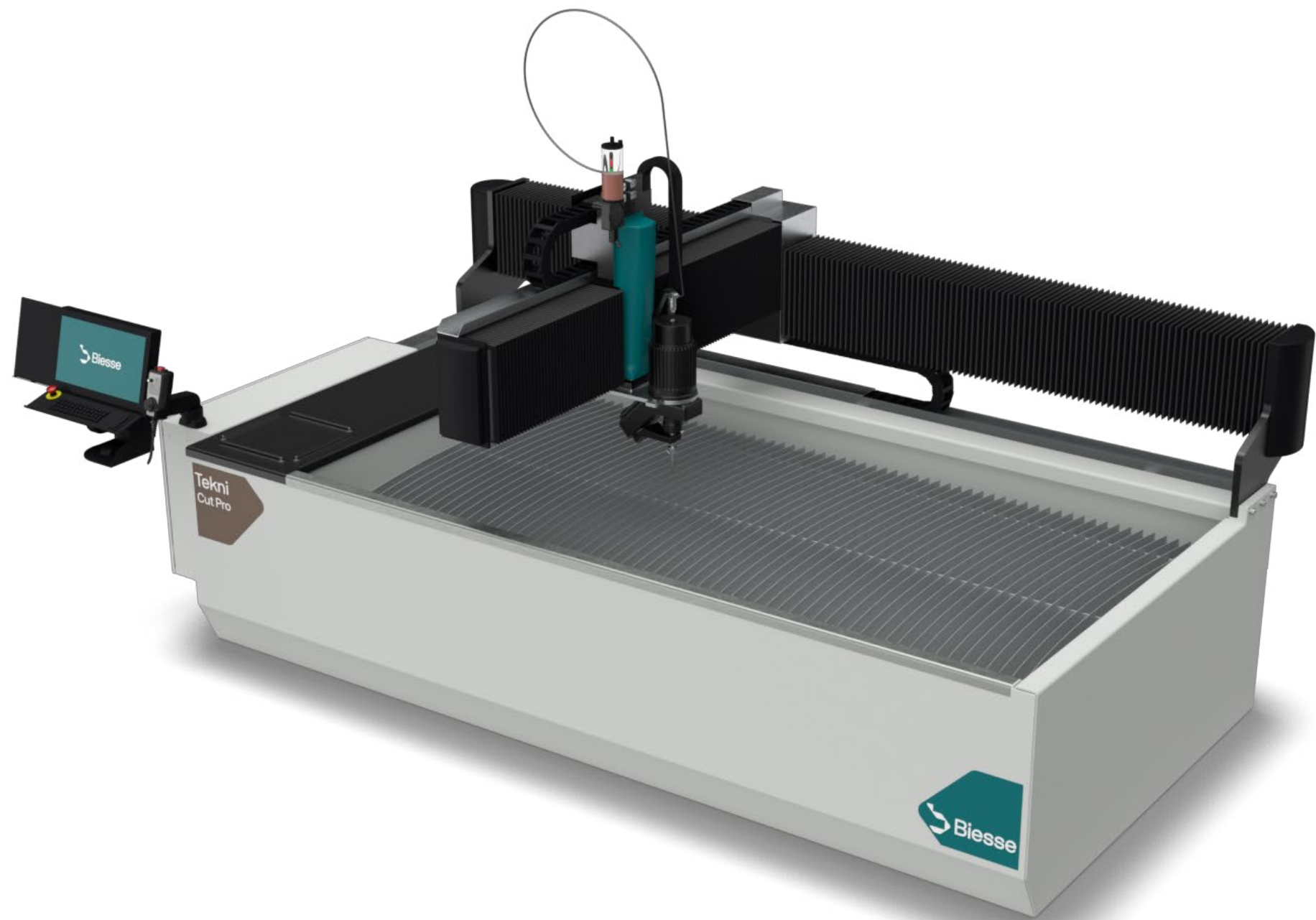
Enhanced accuracy and repeatability for exceptional precision and superior part quality.

Tekni

Tekni Cut Pro J C

Fluid motion, smooth results

The streamlined cantilever-style waterjet system designed for simplicity and efficiency, enabling you to achieve bevel cuts in virtually any material with minimal setup and maintenance. Process materials up to 115 mm thick with the power of 4500 bar pressure.



All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

5-axis cutting head with height detector

Patented direct drive DC servo motor technology for the 4th & 5th axis for positioning accuracy of ± 0.1 degrees with rapid acceleration and positioning speeds.

Electric servo pump 3,8 l/min at 4500 bar

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Automatic nesting

Optimize material usage and boost productivity with advanced automatic nesting features.

Linear scale feedback

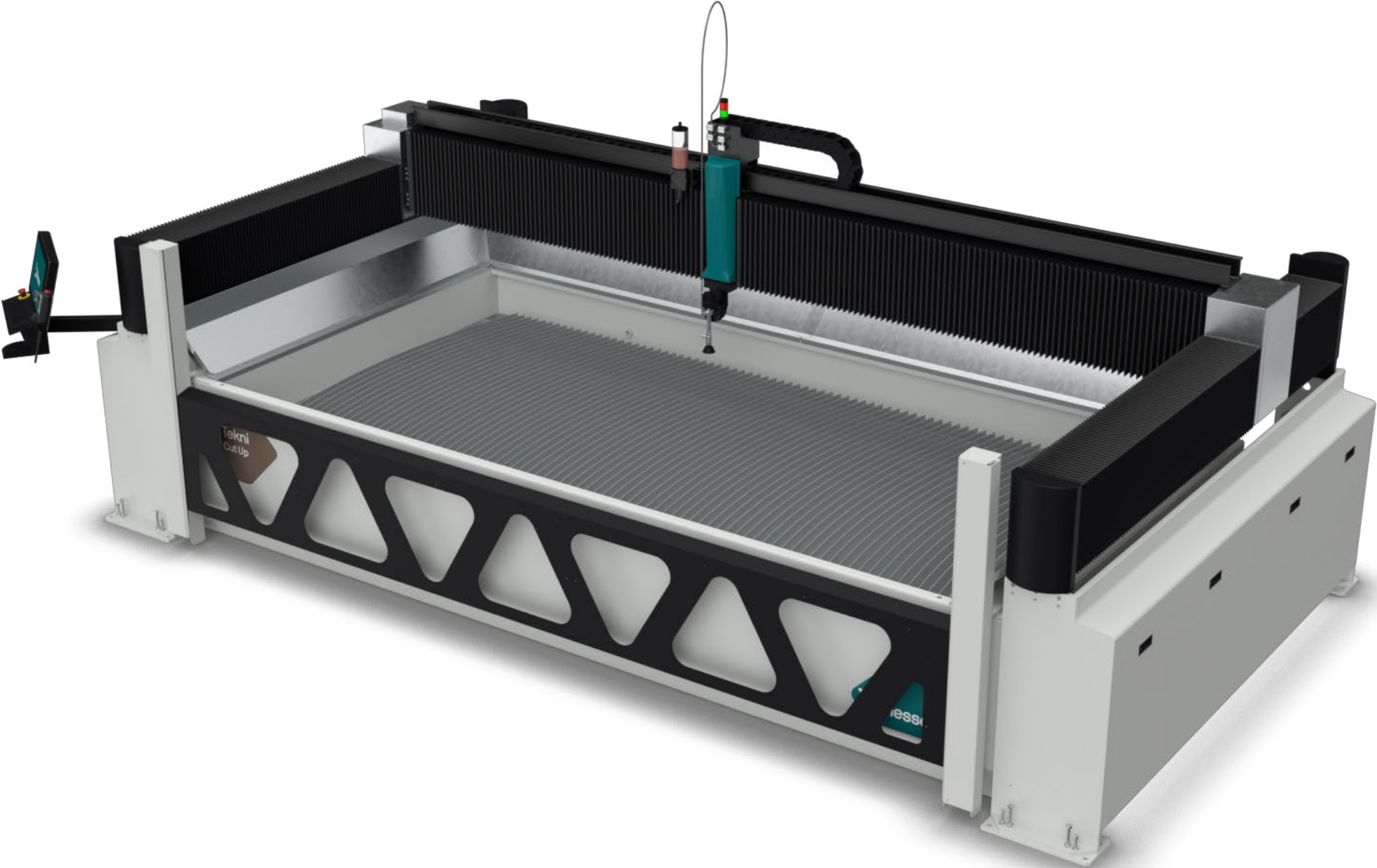
Enhanced accuracy and repeatability for exceptional precision and superior part quality.

Tekni

Tekni Cut Up J G

Waves of efficiency,
boundless reach

The gantry-style waterjet system that ensures robust and consistent performance on every cut. Achieve optimal results on large metal sheets. Process materials up to 200 mm thick with the power of up to 6000 bar pressure.



Up

All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

Seamless programming

The parametric programming system provides clear previews of the cuts to be made, helping you minimize errors and work with greater confidence.

**Electric servo pump
3,8 l/min at 4500 bar
or 3,0 l/min at 6000 bar**

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Automatic nesting

Optimize material usage and boost productivity with advanced automatic nesting features.

Linear scale feedback

Enhanced accuracy and repeatability for exceptional precision and superior part quality.

Tekni

Tekni Cut Up J M



Guiding the current, mastering the force

The monobloc-style waterjet system for achieving straight cuts on most common material sheets. With its motion system integrated into the tank, it's optimized for quick shipping and installation. Process materials up to 200 mm thick with the power of 4500 bar pressure.

Up

All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

Seamless programming

The parametric programming system provides clear previews of the cuts to be made, helping you minimize errors and work with greater confidence.

Electric servo pump 3,8 l/min at 4500 bar

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Automatic nesting

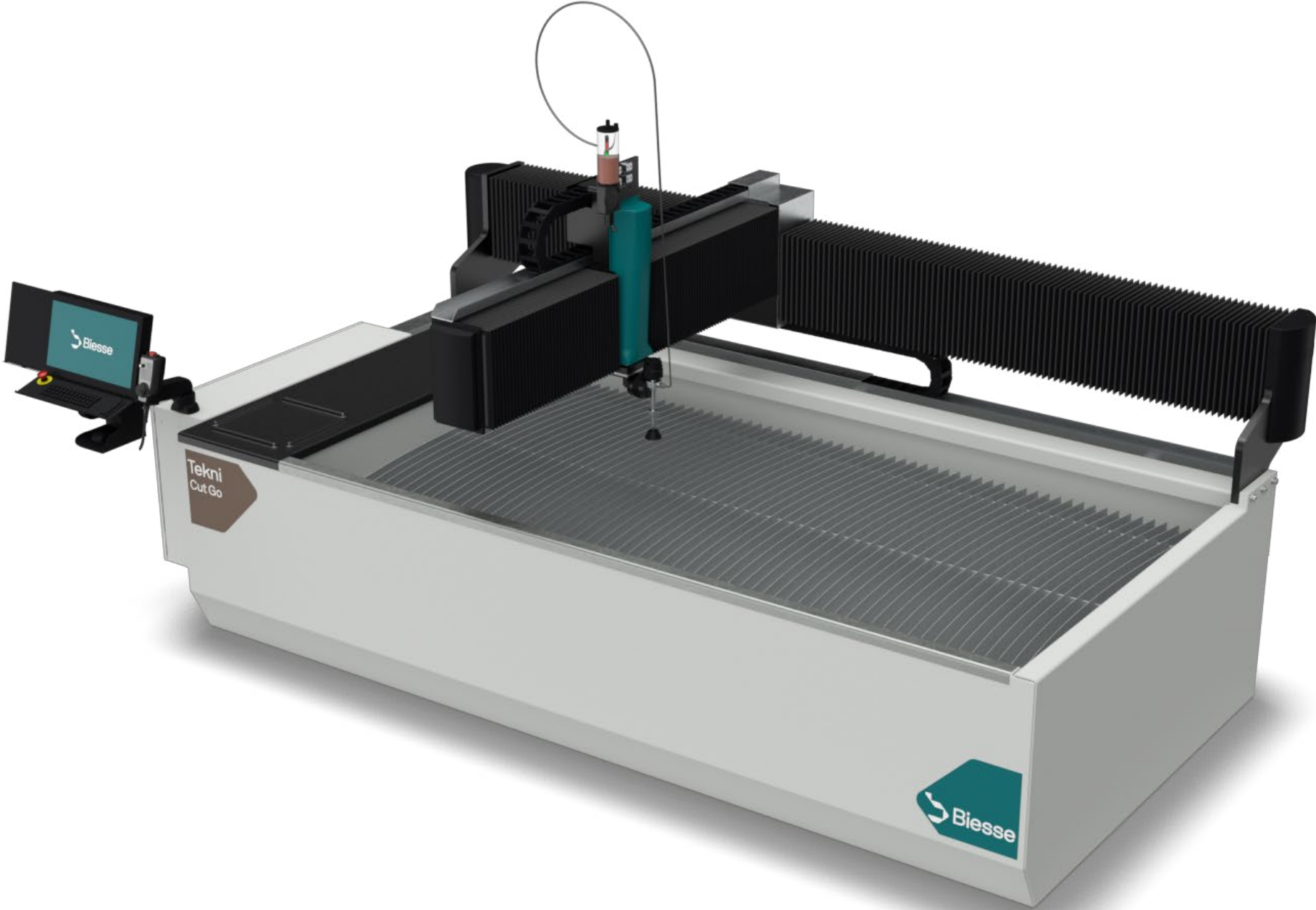
Optimize material usage and boost productivity with advanced automatic nesting features.

Linear scale feedback

Enhanced accuracy and repeatability for exceptional precision and superior part quality.

Tekni

Tekni Cut Go J C



Tidal force, easy navigation

The streamlined cantilever-style waterjet system designed for simplicity and efficiency, enabling you to achieve straight cuts in virtually any material with minimal setup and maintenance. Process materials up to 200 mm thick with the power of 4100 bar pressure.

All-in-one software

From drawing to nesting and cutting, everything flows effortlessly within a single, user-friendly software.

Seamless programming

The parametric programming system provides clear previews of the cuts to be made, helping you minimize errors and work with greater confidence.

Electric servo pump 2,0 l/min at 4100 bar

Our ESPs deliver a lower environmental impact than any other waterjet pump, making them the most efficient cutting pumps on the market.

Drive system

SSBD for a high-precision, wear-resistant drive system designed to thrive in abrasive waterjet environments.

Unibody cutting head

Achieve superior edge quality and maximize wear life for exceptional performance and durability.



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