

The Art of Cutting



PERNDORFER

MASCHINENBAU

**Your committed partner
for best quality!**

WJC



Waterjet Cutting Systems

www.perndorfer.at

Trust in



Franz
Perndorfer

Your committed partner for best quality –

This statement is both a reward and an incentive for us because our commitment and proven quality track record make our company stand out.

Everything great started out small once. Even Perndorfer Maschinenbau, which developed from a one-man metalworker's shop founded in 1985 into one of the most innovative production operations for water jet cutting systems and special machines. The values for which company owner Franz Perndorfer and his team stand have remained the same: reliability, innovative spirit, flexibility, highest quality and the requirement to find a solution to any problem.

As a result the company has a diversified range: it stretches from standard systems to prototype construction, total solutions and customised systems to training, specific on-site consultations and a 24-hour service.

Trust in Perndorfer.

From a single source, manufactured by a strong team

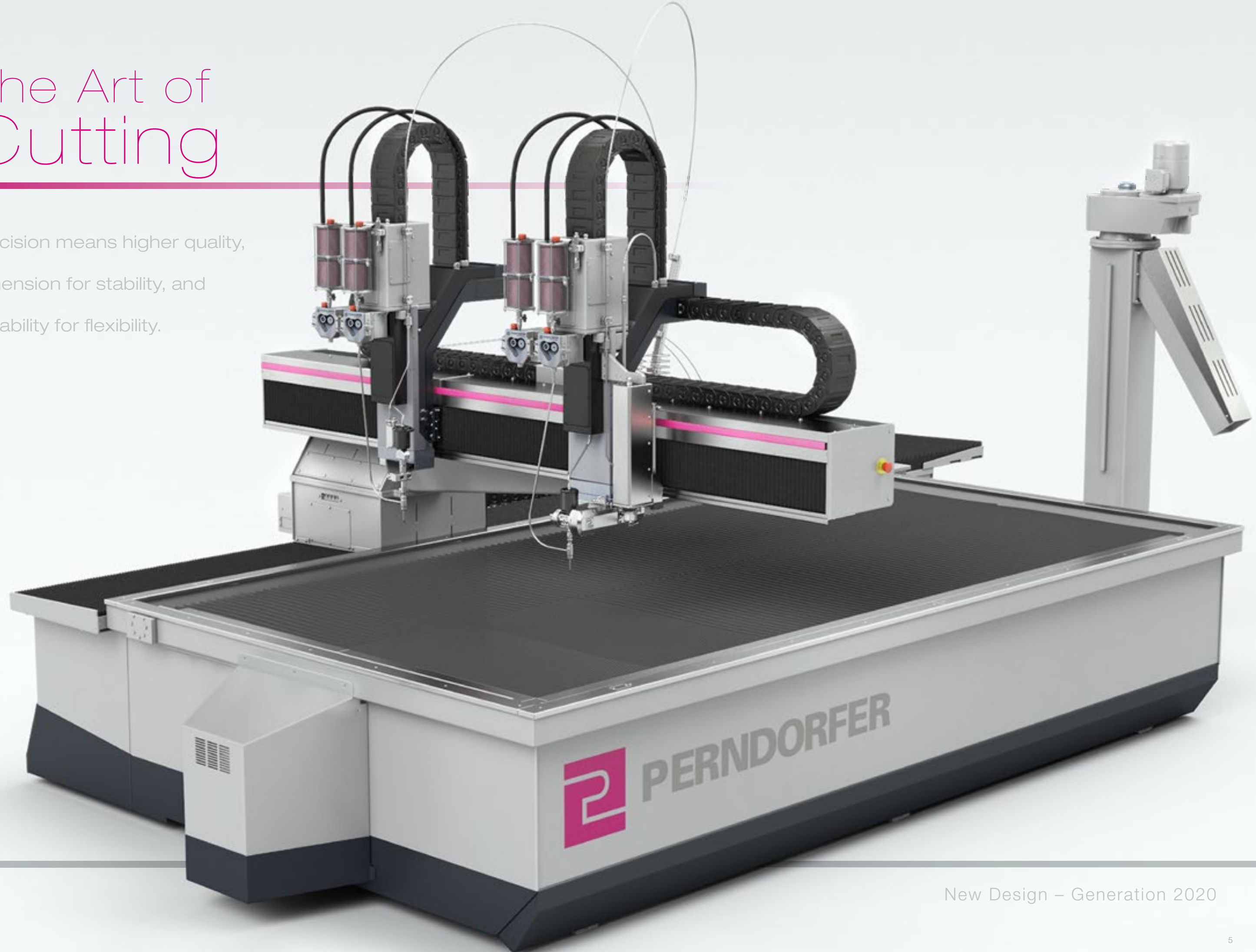
We are a company that is brimming with ideas, a production and development hub, a distribution centre, and a service partner. At Perndorfer everything is manufactured under one roof. As a family-run company, we always give our best. This is evident in our dealings with our clients, but, above all, in our products which are durable, long-lasting, and produced entirely in our production facility in Kallham. All of these points have made our products a reliable partner for many years.

- Our company is family-owned and has ISO:9001 certification. At our location in Kallham (Upper Austria) we not only assemble, but also manufacture 90 percent of our parts ourselves.
- We build prototypes and deliver systems that are fitted exactly to client needs.
- We help the environment and help you save by continually refining our products.
- Our products can be viewed and tested in our new technology centre Perndorfer Cutting World. If you have specific requests, we are happy to give advice on site.
- We look at the bigger picture and offer you comprehensive solutions to problems.
- You can count on our 24-hour service. One call is all it takes, and we'll send help within a day.
- We will train you and your employees be it in software, cutting applications, or pump service.



The Art of Cutting

Precision means higher quality,
dimension for stability, and
variability for flexibility.



New Design – Generation 2020

Construction Quality

Dosing the abrasive material with a conveyor belt has been a tried and tested Perndorfer development for decades and ensures an exact and continual dosing of the abrasive material.

Features cutting heads ideally adapted to the requirements – from 2D to bevel cut adjustment right up to $\pm 60^\circ$ and full 3D cutting heads with height sensing.

Because the cutting basin and the machine frame are separated, there is no heat.

We offer countless additional add-ons like a drilling unit, water level regulation, rotational axis for pipes and many more (also for retrofitting).

The durable strip grate has a load bearing capacity of $> 1,000 \text{ kg/m}^2$. The distance between the strips can be individually selected and plugged.

How about a cantilever design with ideal access or a gantry design for large projects? We guarantee the same high level of precision in both designs.

Perndorfer's unique sludge removal system has been removing sludge and slurry reliably for more than ten years and to the utmost satisfaction of our clients.

The X/Y zero stop along the entire length ensures quick and easy zero determination.

The solid machine construction prevents the system from vibrating and guarantees consistent accuracy for many years.

WJC Control System

Are you looking for a modern control system with user-friendly software for your waterjet cutting unit?
Then you have come to the right place.

The ProCom Control System

In waterjet cutting systems with a standard range of functions the ProCom CNC300PRO control system is used with the Bosch-Rexroth powertrain. This is a powerful industrial computer equipped with the latest hardware and an EtherCAT interface.

This machine control software was designed especially for waterjet cutting.

Ideas, wishes, and suggestions from our clients were incorporated into the development of this software and continue to flow into it today. This makes the software so practicable, functional, and user-friendly.

Other features of the control software:

- Visualisation of the cutting job with a real-time display of the cutting process
- Particularly fast restart feature after stopping. Restart possible at any position without NC set search and so on (graphic interactive restart)
- Job queue: the system can be programmed to do different cutting jobs and works through these one after the other automatically and unmanned
- Extensive calculation module with cost calculation
- Cut macros for simple contours (manual cutting)
- Angle compensation feature on the control system (not dependent on CAM manufacturer)
- Recording of status and error reports
- Current Windows operating system
- Extensive visualisation
- Infinitely variable regulation of abrasive
- Alternative grooving shapes and strategies
- WJC-specific treatment of corners and radius treatment
- Bevel cutting with freely-defined angle transitions (5 axes)
- Operation of several heads
- Graphically interactive determination of starting point
- Dry run operation for accelerated test run without water
- Managing material parameters
- Correction of any imbalance or tilt
- 2D ergoCAM integration
- BDE or expanded BDE with the help of ProCom-Clouver
- Programmed stop for test measurements
- Context-sensitive operator support: Access to individual functions is only then permitted when safe
- Various user levels
- and many more



Symbol photos

NUM Flexium

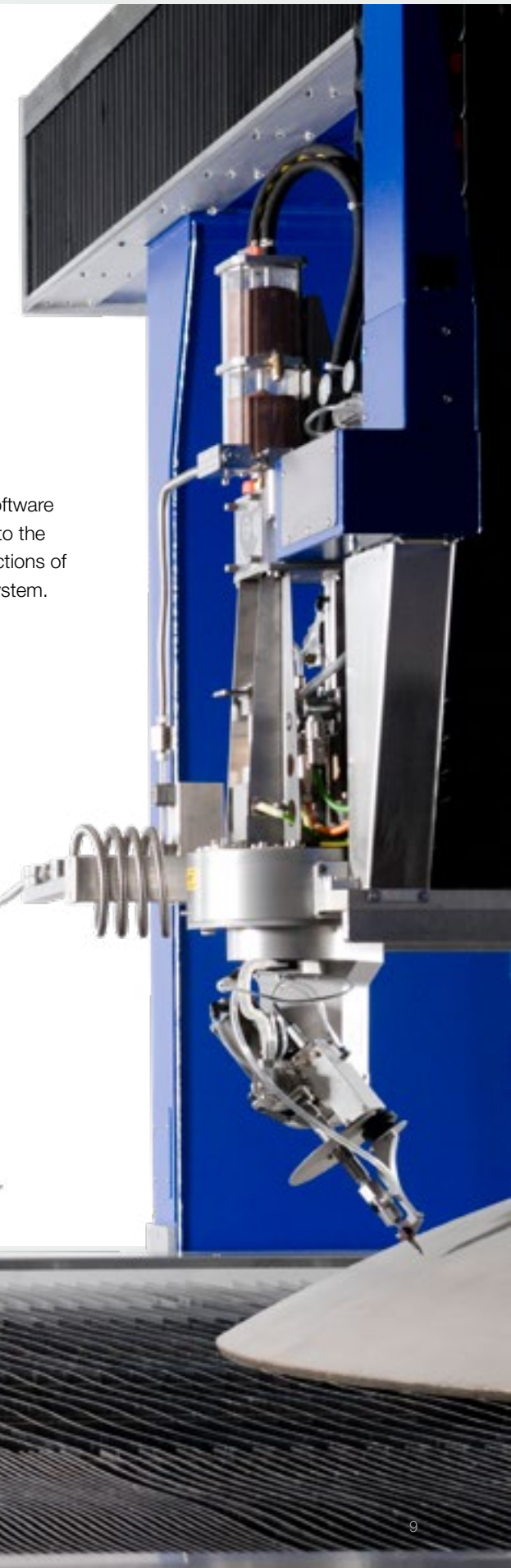
For specialised waterjet cutting units equipped with more than the standard functions, usually a NUM control system is used.

The Flexium+ CNC system manages even the most demanding tasks. Powerful processors with a high computing speed and an intelligent layout with potential for upgrades are an investment in the future.

The powertrain and motors used in a NUM control system are also from NUM.



The control system software is especially adapted to the requirements and functions of the waterjet cutting system.



The Advantages of Technology

Are you looking for a separation process without heat in which the material does not burn, develop microscopic cracks, harden, or changes its shape? Then waterjet cutting might be right for you.

Pure Water PWJC

In pure waterjet cutting materials are cut using water without the addition of abrasives. This method is particularly suited to materials like foam rubber, polystyrene, leather, insulating wool, and many more. Even thick elastomers can be cut with pure water. Thanks to the small cutting jet diameter of 0.08–0.3 mm, the cutting gap is small, and the waste is minimal.

Basically, all of Perndorfer's waterjet cutting systems – even those that work with abrasives – can be retrofitted to pure water quickly and with little effort. But we also carry pure waterjet cutting units which were constructed with this requirement in mind. At the request of clients, we will also develop and produce units for pure water for special cutting requirements.

The pure waterjet cutting process is often used to cut smaller contours and in series production. Here, it is important to keep the positioning times as short as possible which requires a unit to be very dynamic. Perndorfer has adapted the powertrain concept of its pure waterjet cutting units to this requirement and tweaked the systems for speed.

We are happy to advise you and perform test cuts.

Abrasive Cutting WJC

In waterjet cutting an abrasive is mixed with the stream of water just before the water nozzle. Garnet sand is used with a particle size of 80 to 200 mesh. The abrasive cutting technique is used for hard materials such as glass, metal, plastic, and composite material.

The dosing of the abrasive is done by a method Perndorfer developed that uses a conveyor belt. This ensures exact dosing and a continual cutting process. Moreover, the amount of abrasive can be controlled during the cutting process.

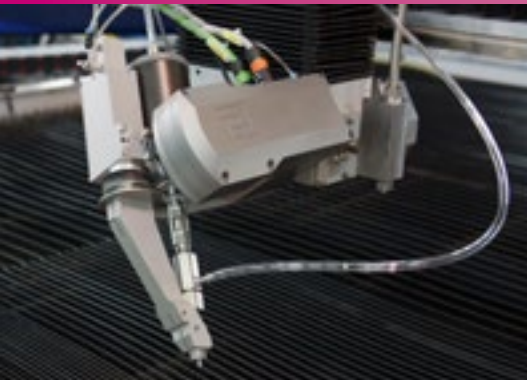
Clogs or the absence of the abrasive is detected reliably and evaluated. The container above the abrasive dosing part is made of Plexiglas making it possible to see things at a glance.

The unique Perndorfer sludge removal system works extremely reliably and automatically removes the cutting mud from the cutting basin to a mobile container outside of the unit. The sludge is just damp so there is no need to dry it or let the water drip out. The sludge removal requires very little maintenance, energy, and space, and has a service life of more than 15,000 hours.

We would be happy to assist with a standard model or a special requirement.



WJC Cantilever



Diagonal Cut Compensation / $\pm 60^\circ$ Bevel Cutting Head

This cutting head technology is a Perndorfer development. A special algorithm analyses the contours and ensures in this way the exact square cuts. The cutting head can function as both diagonal cut compensation as well as a bevel head cut and allows bevel cuts of up to 60° . An integrated measuring system ensures maximum precision. Even after minor collisions the head does not have to be undergo big readjustments – usually a short reference run suffices.



WJC^{HE} Cantilever XL

Thanks to the cantilever design the cutting basin can be accessed on all sides. For this, the basin is set up for loading and unloading at an ergonomic distance from the unit's longitudinal axis. Without access from all sides the width to work on is 2,500 mm.

Working surface

Accessibility from all sides: 4,000 x 2,000 to 12,000 x 2,000 mm
 Accessibility from three sides: 4,000 x 2,500 to 12,000 x 2,500 mm
 Other sizes available upon request



Symbol photo



Symbol photo

The cantilever is constructed and calculated with the help of state-of-the-art CAD and FEM technology. A huge welded steel construction guarantees the greatest level of stiffness. Up to a working width of 2,500 mm, there are no disadvantages compared to the gantry design – we guarantee this with our good name. Even in systems with more than one head, the master cutting head can go up and down the whole working area.

WJC^{HE} Cantilever

In addition to the obligatory Perndorfer quality features, the cantilever has another key advantage and that is that the unit is accessible on three sides and is easy to load. When working with compact measurements it works at full capacity and is therefore also suitable if space is limited.

Working area: 1,000 x 1,000 mm to 12,000 x 2,000 mm
 Other sizes are available upon request

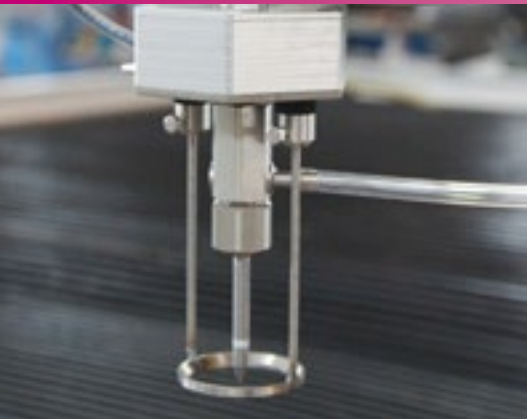
The **sludge removal** using a screw conveyor is a Perndorfer innovation that automatically moves the sludge deposited into the cutting basin to a mobile container located outside of the unit. The sludge is just moist and does not require lots of time and effort to dry. There is no need to spend lots of time removing the cutting sludge by hand. Low maintenance, minimal energy usage, and a service life of more than 15,000 hours of operation are other advantages of Perndorfer's sludge removal system.

WJC^{HE} – “High Efficiency”

Perndorfer's latest generation in water cutting technology

As with the previous generation of units, the HE series also offers numerous options such as diagonal cut compensation, a drilling unit, water level adjustment, and many more.

WJC Gantry



2D Height Sensor

The 2D height sensor ensures an even distance between the tip of the focusing tube and the surface of the material along the whole working area. At the same time, the height sensor reacts to any obstacles in the cutting direction and can prevent a collision. The height sensor can also be used if there is a small angle or when working on the diagonal compensation.



Positioning Laser

With the help of a laser pointer mounted on the Z axis, the desired starting point can be found easily and quickly and assumed. Another SW feature allows the laser pointer to go up and down the cutting contour. So, if space is, it is possible to do a quick visual check of the alignment of the contour on the raw material.

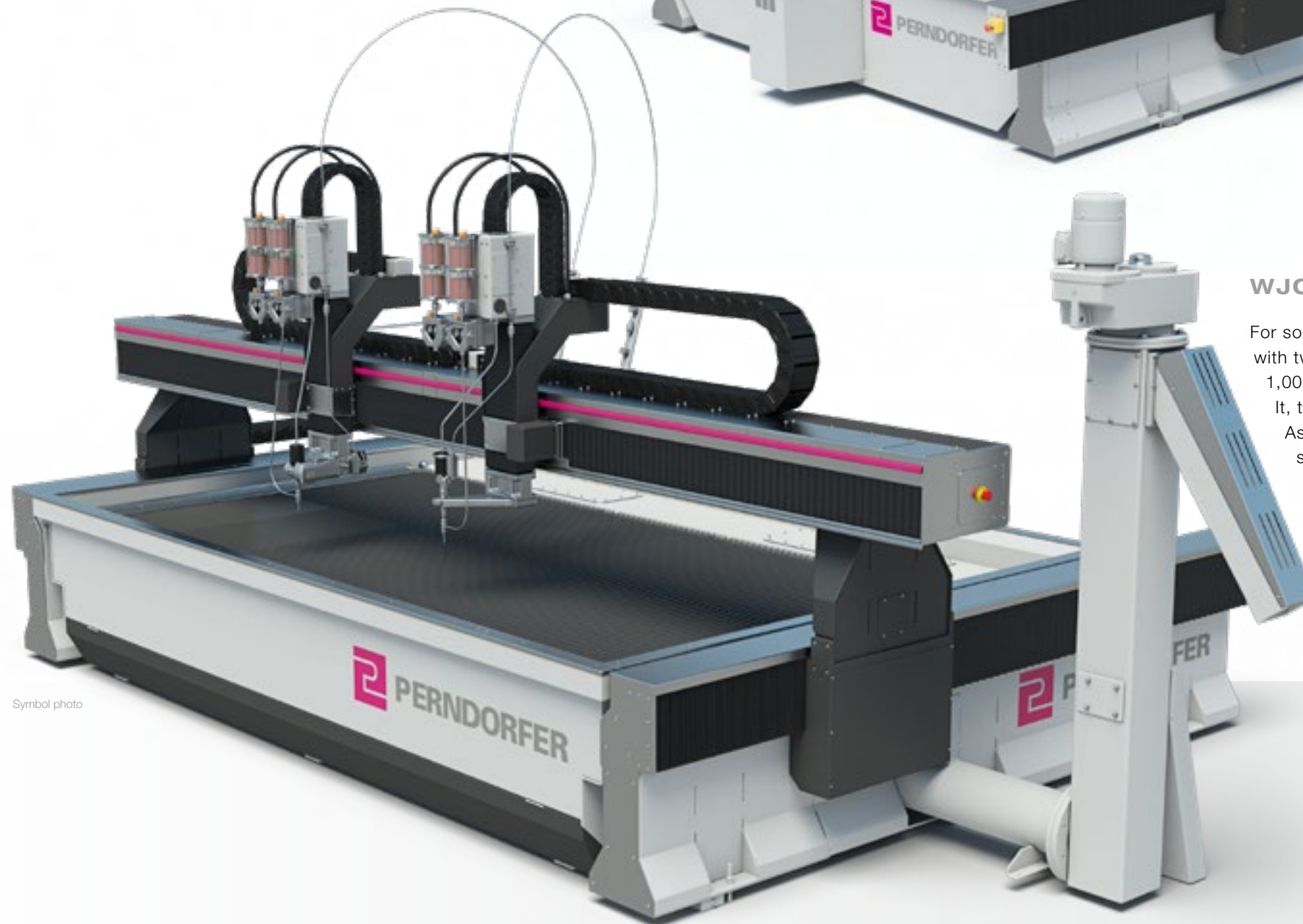
WJC^{HE} Gantry

The gantry design is usually used when the working width exceeds 2,500 mm. As with the cantilever design, the unit can be used simultaneously to set up and cut if the working surfaces are large. Even in the case of systems with several heads, the master cutting head can go up and down the entire working surface. This makes it easy to work efficiently and economically.

Working surface: 4,000 x 3,000 mm to 12,000 x 4,000 mm
Other sizes available upon request



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WJC^{HE} Wide Gantry

For some cutting applications such as working simultaneously with two cutting heads and a component size greater than 1,000 mm, the Wide Gantry design is the right choice. It, too, has a lean design and ideal accessibility. As with all of Perndorfer's flatbed waterjet cutting systems, the zero stop along the X/Y axis guarantees a quick, exact, and comfortable setup of the raw material on the cutting table.

Working surface: 3,000 x 2,000 mm to 4,000 x 4,000 mm
Other sizes available upon request

WJC 3D

Do you need to work on Klöpper heads, welded assemblies, complex three-dimensional geometries, or other materials with more space? This unit can do all that easily.



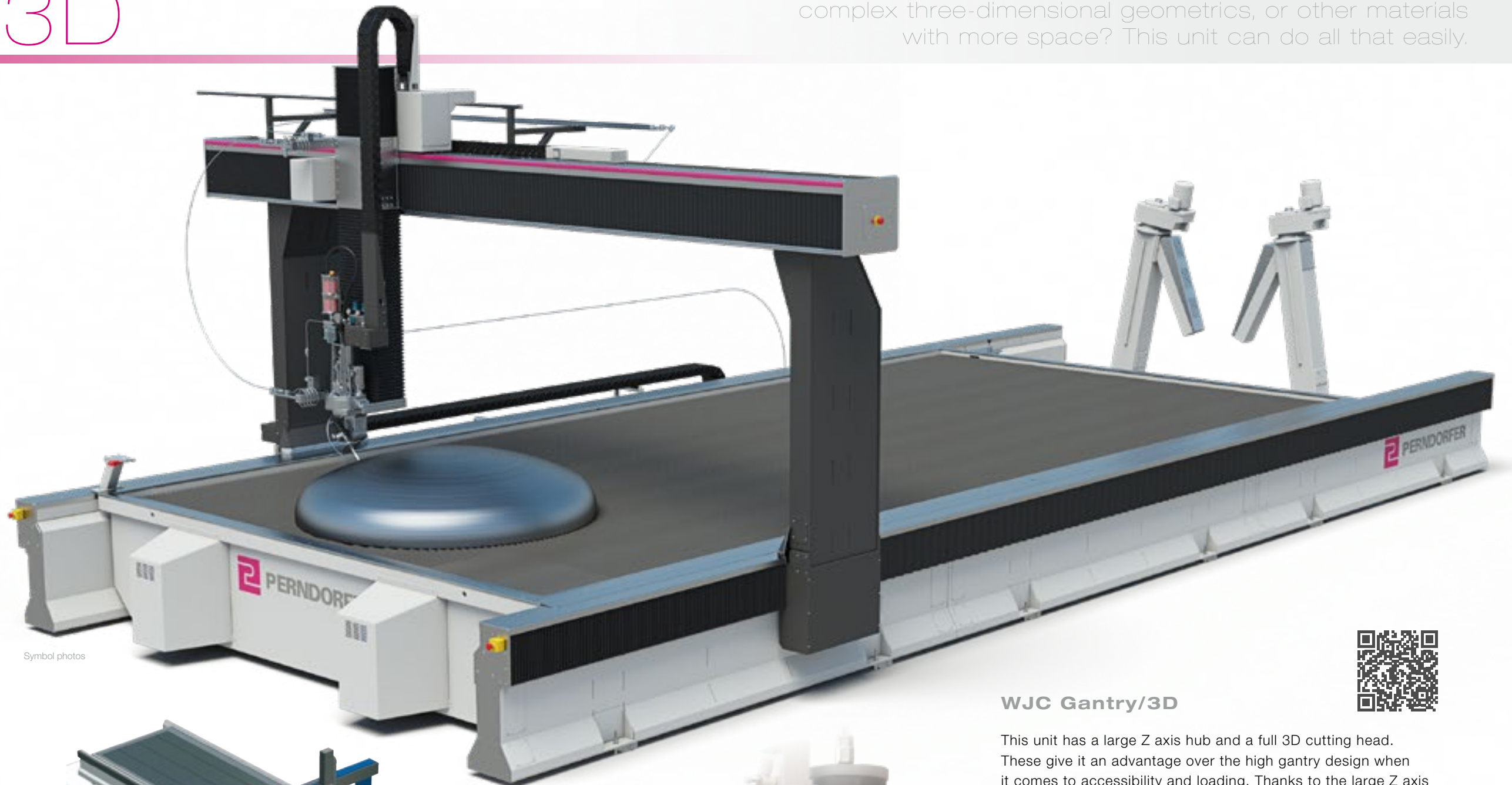
Welded and Tensile Manufacturing

This application is ideal if samples from welded assemblies from various parts are to be taken using waterjet. Because no warmth is added to the material, the structure of the material does not change. The samples can be permanently engraved by the waterjet and thus marked, which is an advantage for further work steps such as etching in an acid bath. Perndorfer provides not only the right units, but also a special software designed for this application. Together with the client and the related know-how we develop the project.

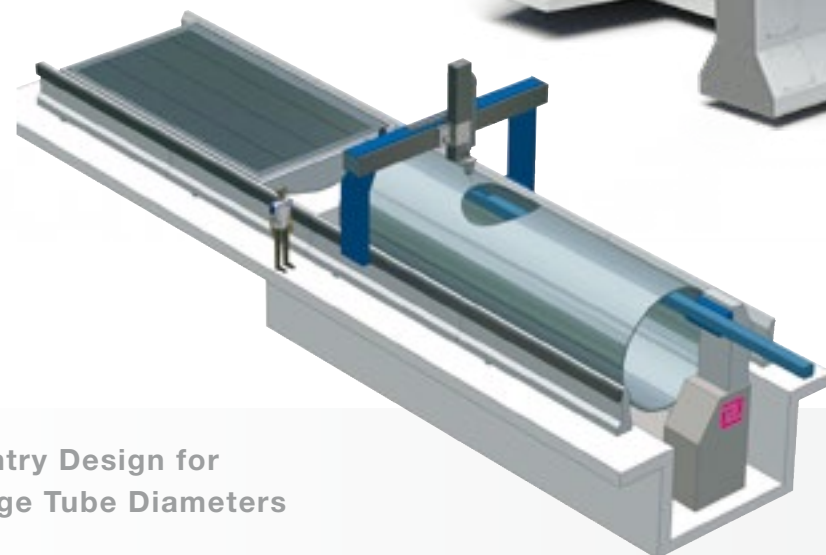


3D Cutting Head

The 3D cutting head ensures an even cutting quality even with complicated contours. With the B axis cuts up to $\pm 130^\circ$ are possible. The endlessly rotating C axis has all the advantages of the integrated abrasive technology.



Symbol photos



Gantry Design for Large Tube Diameters

Tubes and containers up to 3,000 mm in diameter can be cut easily with this unit. Larger cutting diameters are possible as a custom design. The patented 3D abrasive head also makes it possible to cut very complex contours. The 3D (5 axes) unit can be equipped with a cutting table.



WJC Gantry/3D

This unit has a large Z axis hub and a full 3D cutting head. These give it an advantage over the high gantry design when it comes to accessibility and loading. Thanks to the large Z axis hub of up to 1,500 mm, Klöpper heads, tubes, containers, and designs can be worked on directly on the cutting table.

Working surface: 4,000 x 3,000 mm to 12,000 x 4,000 mm
Other sizes available upon request

3D Height Sensor

The 3D height sensor makes it possible to reliably sense the material's surface with an inclined cutting head. This ensures that the distance from the nozzle to the material remains the same, thus allowing for high quality bevel cuts. It goes without saying that the 3D height sensor can also be used for straight cuts and flat material.



WJC Tube

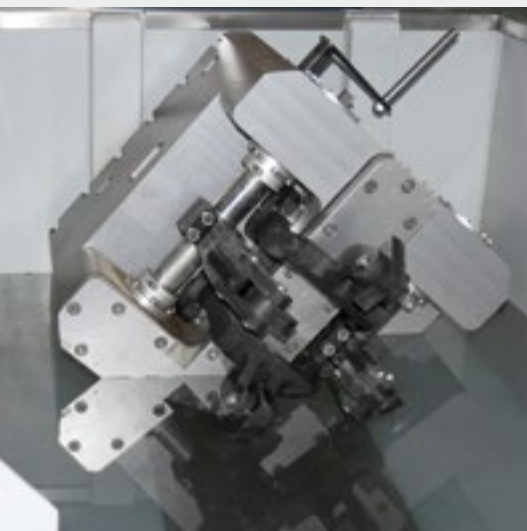
Do you need to cut tubes, shaped tubes, and I-sections with mitre and bevel cuts and diagonal penetrations? This is the right unit for you!



Water Level Regulation

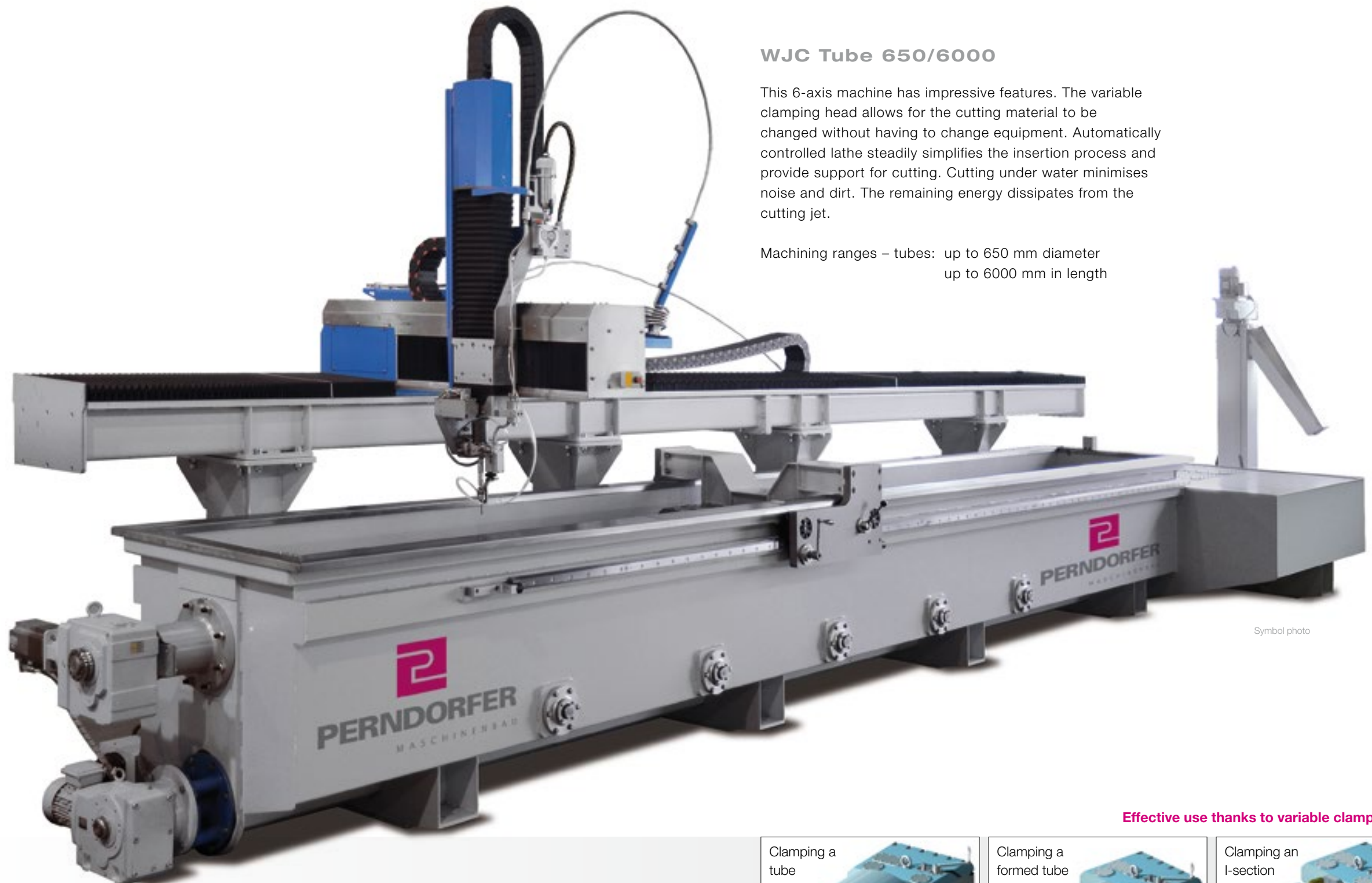
Cutting under water, be it when cutting a tube or on the flatbed has key advantages: There is little noise and dirt pollution. The residual energy of the waterjet dissipates and cannot do any harm.

Water level regulation or being able to quickly raise or lower the water level is another plus and helps to save time.



Variable Clamping Head

The variable clamping head is an innovation available only from Perndorfer. It enables the clamping of tubes, formed tubes, and various profiles (e.g. I-sections) without any time-consuming equipment changes. As a result, work is guaranteed to be faster and more efficient.



WJC Tube 650/6000

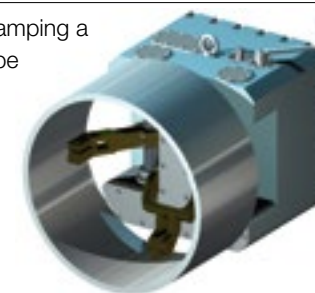
This 6-axis machine has impressive features. The variable clamping head allows for the cutting material to be changed without having to change equipment. Automatically controlled lathe steadily simplifies the insertion process and provide support for cutting. Cutting under water minimises noise and dirt. The remaining energy dissipates from the cutting jet.

Machining ranges – tubes: up to 650 mm diameter
up to 6000 mm in length

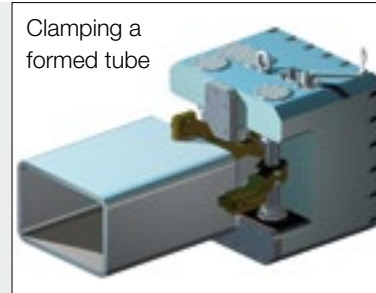
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Effective use thanks to variable clamping head.

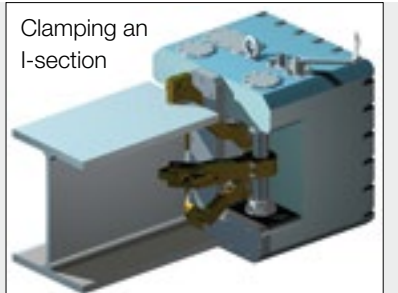
Clamping a tube



Clamping a formed tube



Clamping an I-section



WJC Tube XL

Do you need a strong system to cut large tubes
with a diameter of over 500 mm?
Then this is your unit.



Lever system

The lever system the unit to be fed in an especially safe and comfortable way.



Inkjet

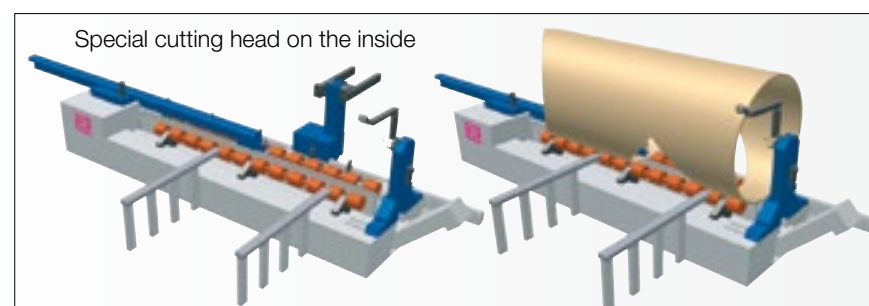
There is the option to fit the system with a printer (inkjet) to automatically label the tubes. This not only labels tubes, but also applies index or grade markings accurately. This offers enormous saving opportunities for further processing.

WJC Tube 4000/6000

This is a system for special applications where the inside wall of the tube cannot be damaged in any way. The incision is made from the inside to the outside, which prevents damage, and the immediate area surrounding the working area is hardly affected. Suitable for tubes with a diameter of 500 to 4,000 mm. On request, the 5-axis system can be equipped with a printer or a marking device.



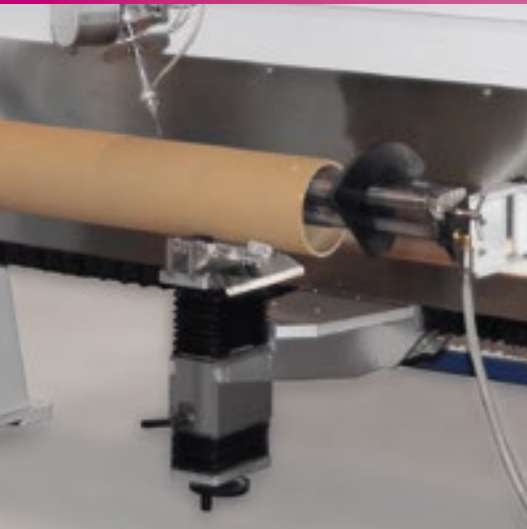
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Special cutting head on the inside

WJC Specialised Tube

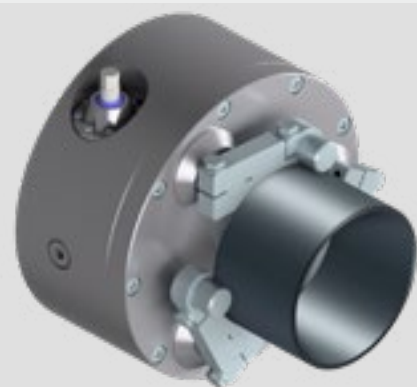
Do you need to cut tubes with a diameter of more than 400 mm made of different materials? This unit can do it.



Mobile Tube Support

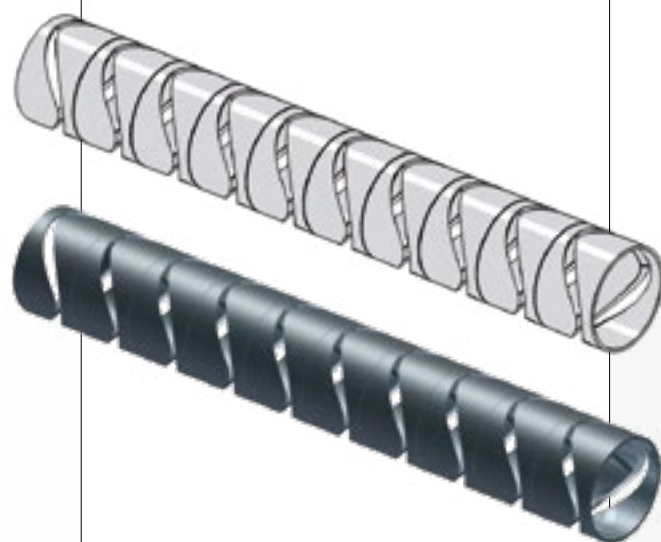
The automatically adjustable tube support (W-axis) enables the cutting of several tube segments without losing time for resetting. The segments that have already been cut remain in the catcher or can be pushed back with the W-axis.

This model has a **catcher** on the inside of the tube which prevents damage to the other side of the tube. Moreover, during the cutting process, this is continually rinsed and, as a result, the cutting sludge is carried away.

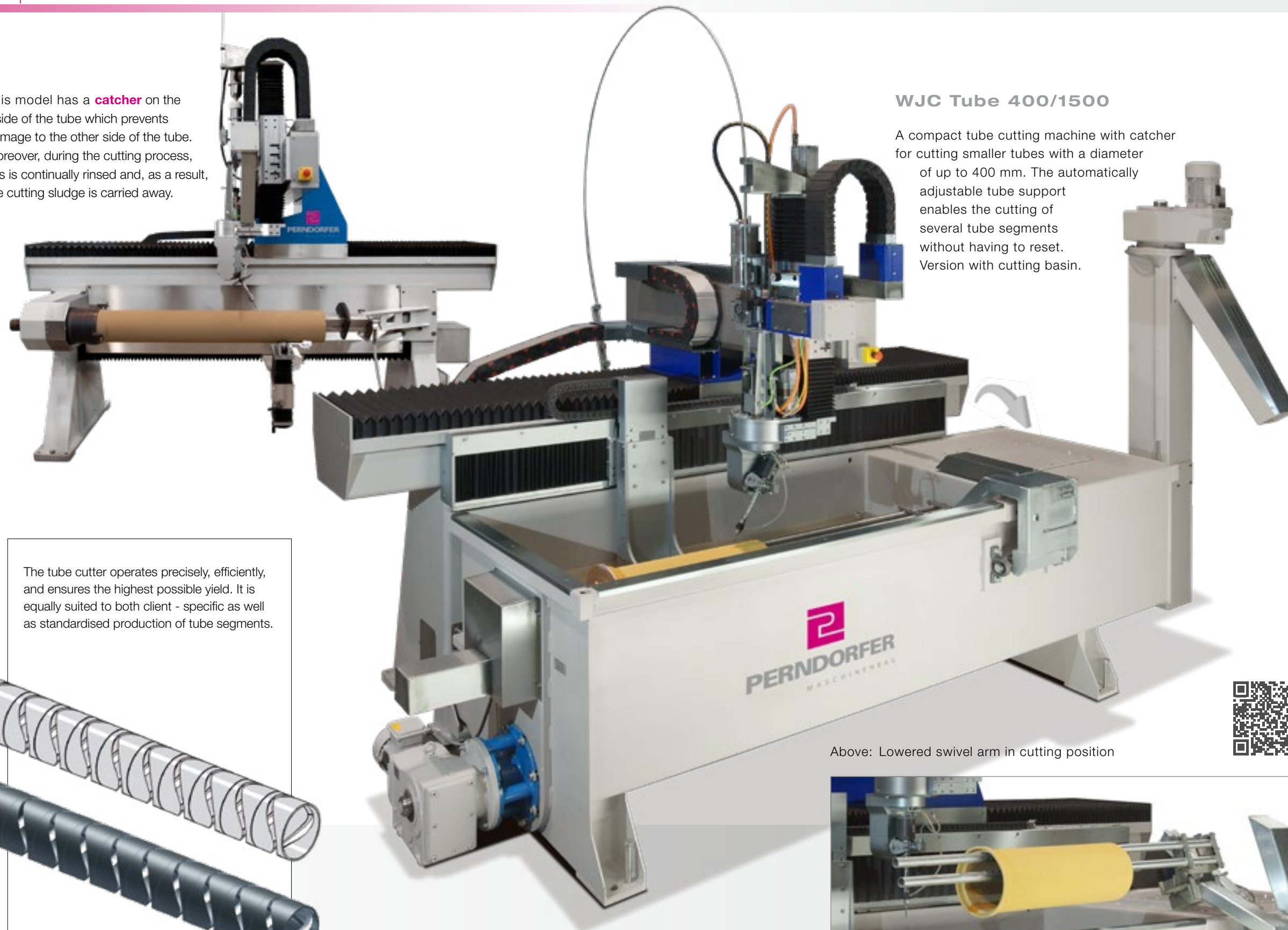


Tube Clamping Chuck

To cut tubes under water a robust clamping chuck is needed that is designed for the harsh environment of the abrasive and water mixture. Perndorfer's clamping chuck was developed with exactly this application in mind. The clamping claws cannot get stuck and even after years they run smoothly because the mechanism is situated on the water-tight inside of the chuck. Even units from other companies can be retrofitted with Perndorfer's clamping chuck.



The tube cutter operates precisely, efficiently, and ensures the highest possible yield. It is equally suited to both client - specific as well as standardised production of tube segments.



WJC Tube 400/1500

A compact tube cutting machine with catcher for cutting smaller tubes with a diameter of up to 400 mm. The automatically adjustable tube support enables the cutting of several tube segments without having to reset. Version with cutting basin.



Above: Lowered swivel arm in cutting position

Symbol photos

Right: Extended swivel unit for comfortable placement



WJC Combination

Are you looking for an encapsulated WJC unit
or a combination of a tube and flatbed?
You've come to the right place.

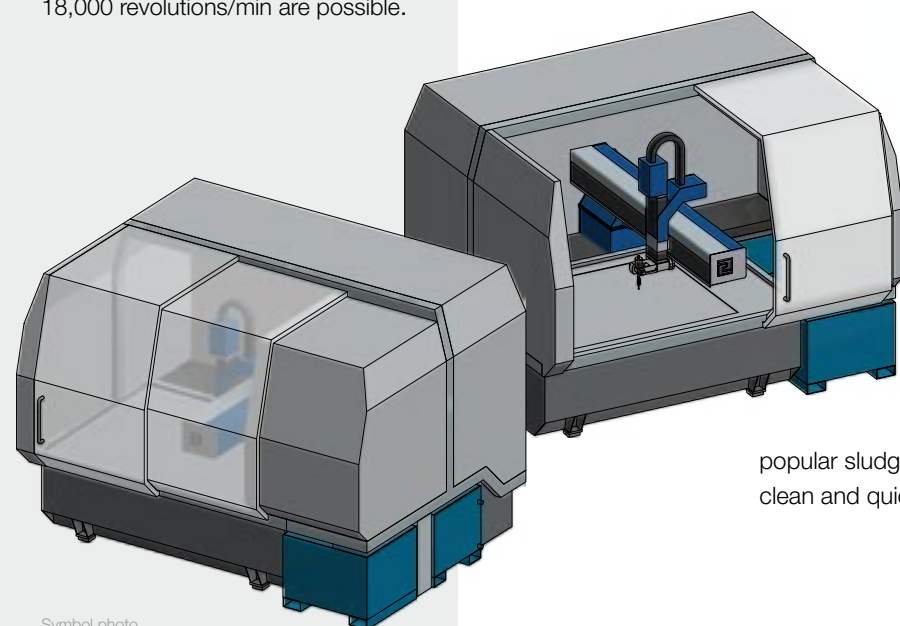


Drilling Unit

Materials like glass fibre-reinforced plastic or various sandwich materials can delaminate when pierced by the waterjet. To prevent this, an initial bore is made with the drilling unit. This way the waterjet can penetrate the material unhindered, and the cutting process can start. Speeds of up to 18,000 revolutions/min are possible.



WJC BOX Model



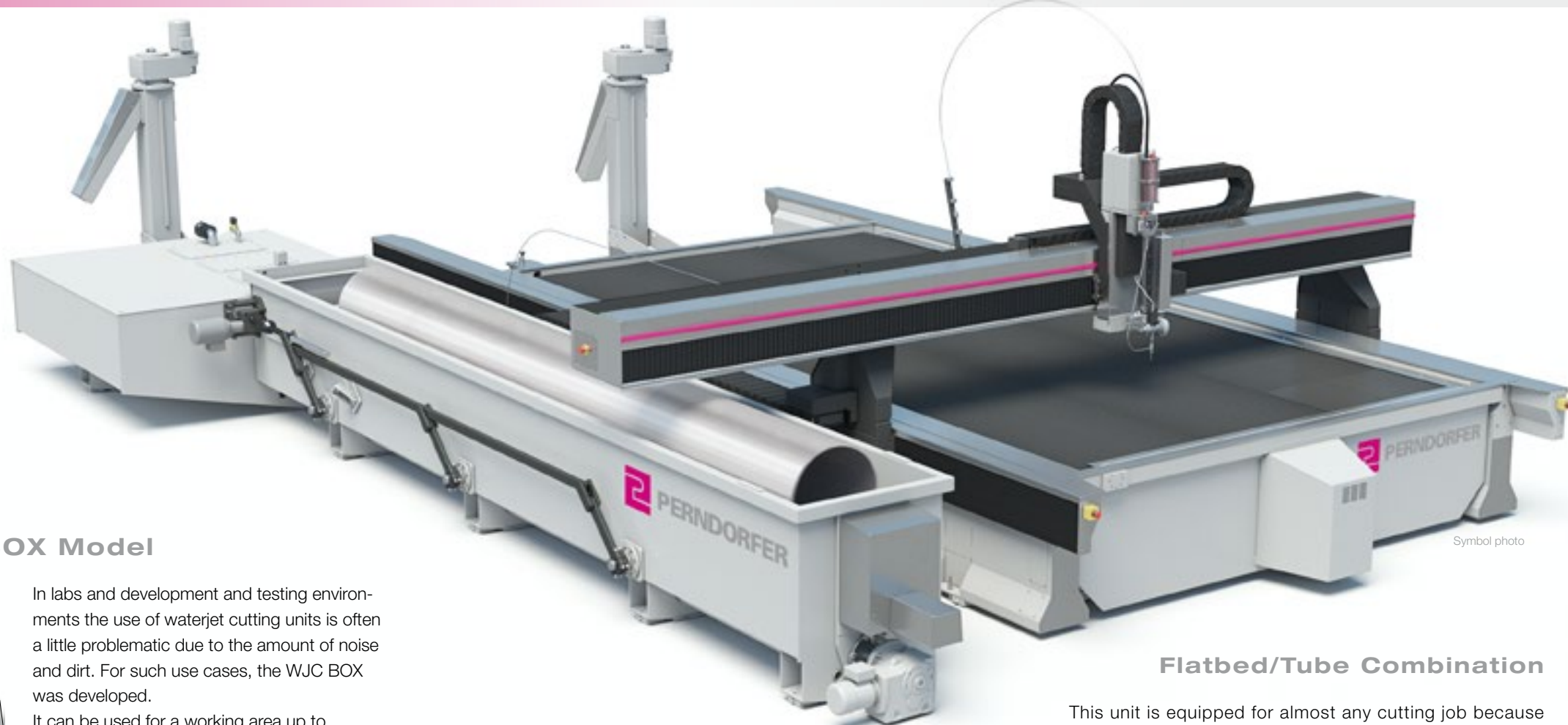
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In labs and development and testing environments the use of waterjet cutting units is often a little problematic due to the amount of noise and dirt. For such use cases, the WJC BOX was developed.

It can be used for a working area up to 2,500 x 1,500 mm. The doors are designed in such a way that the unit can be fed with a crane from above or also from in front simply, safely, and conveniently.

If so desired, the unit can also be equipped with a $\pm 60^\circ$ bevel cutting head.

There is even room in the BOX for Perndorfer's popular sludge removal. With this unit waterjet cutting is not only clean and quiet, but also absolutely safe.



Symbol photo

Flatbed/Tube Combination

This unit is equipped for almost any cutting job because it combines the advantages of a Perndorfer tube cutter in a useful way with a flatbed area. The tube cutting has moveable bezels, which make it easy to load and assist in the cutting.

The integrated automatic water level regulation makes it possible to cut tubes under water. As a result, the cutting process is quiet, clean, and particularly gentle on the other side of the tube. The powered clamping system is constructed in such a way that the harsh abrasive water environment cannot harm it.

The unit can also be equipped with several cutting heads. A $\pm 60^\circ$ or full 3D cutting head allows for bevel cuts on the flatbed and cutting components with free forms and diagonal cuts in the tube.

Perndorfer's popular sludge removal ensures that the cutting sludge is removed reliably both from the flatbed as well as from the tube cutting basin.

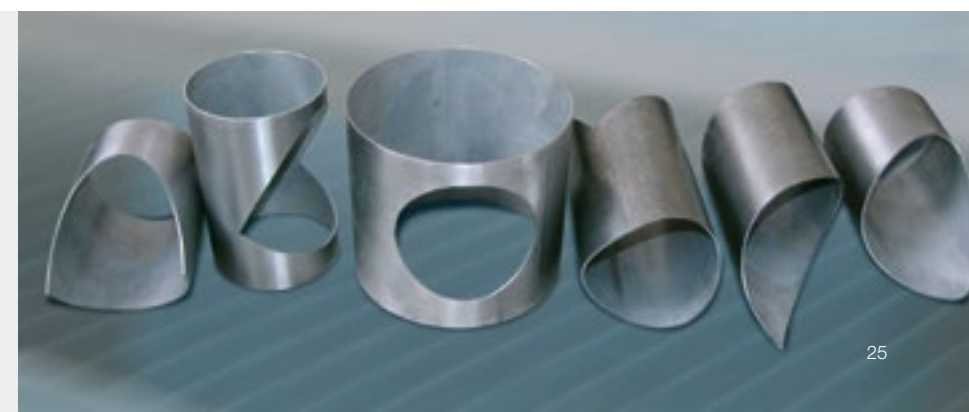
Lift tables and Water Level Regulation

Lift tables are advantageous in that cutting can be done under water while at the same time the area above water can be set up. Lift tables can be linked via the control system without any mechanical effort so the operator can use the entire cutting area of both tables. The control system raises and lowers the lift tables quickly and completely automatically. If there is no need to divide the areas above and below water, but nevertheless cutting is to be done under water, the water level regular usually is used. Here the control system raises and lowers the water level quickly and completely automatically and regulates it also during the cutting.



Exemplary Tube and Container Processing

Equipped with high-quality Perndorfer technology, tubes and containers can be processed to meet individual client requirements. 2D or 3D cutting heads with or without diagonal cut compensation ensure optimum solutions.



WJC Pure Water

Do you need a system to cut soft materials like rubber or foam?
Here it comes!



Effective Cutting Head Arrangement

The cuttings heads for pure water jet cutting have a slim-line design so that gaps can be kept low. This in turn ensures that material is better utilised for small parts. The cutting heads work with very high pressure cycles and are therefore particularly responsive.



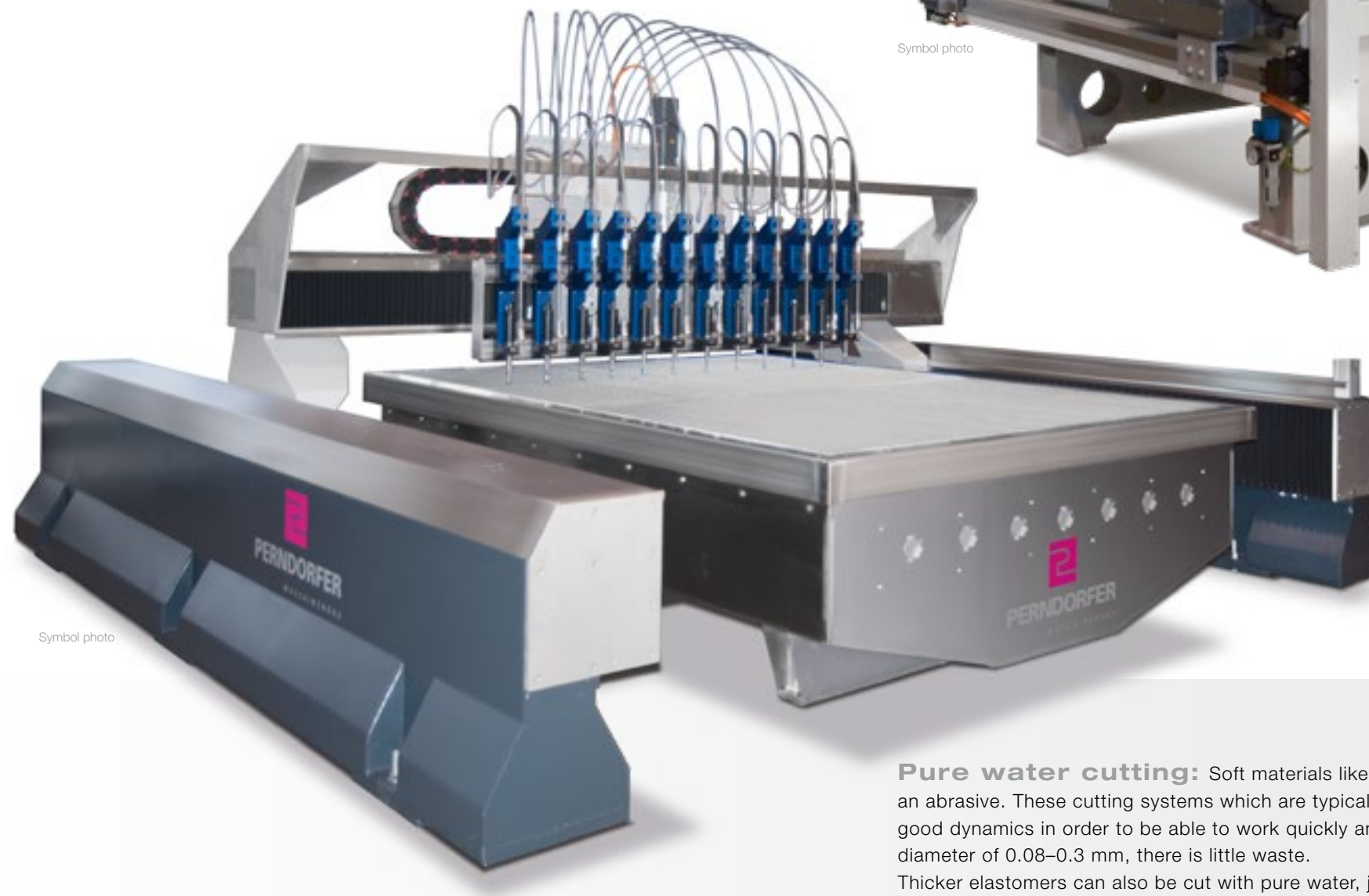
Individual Wastewater Treatment

When cutting rubber, the wastewater is very polluted with rubber particles. Because every plastic reacts differently in water, Perndorfer is conducting tests to come up with bespoke disposal solutions right up to water recycling for recirculating the wastewater.

WJC^{PW} 5-head „Dynamic“

Small, compact and perfect for manufacturing small series:
The Dynamic pure water jet cutting system is best used for cutting flat gaskets or foam materials. The system has good dynamics; the five cutting heads can be pushed easily and quickly by hand to the required spacing and clamped.

Working surface: 3000 x 1500 mm
Other sizes on request



Symbol photo



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WJC^{PW} 12-head „Dynamic Plus“

The Dynamic Plus is a pure water jet cutting system that can be equipped with twelve or more cutting heads. It is suitable for both small and large series production batches offering excellent dynamics and the utmost precision. It is also accessible from several sides.

Working surface: 2600 x 2100 mm
Other sizes on request

Pure water cutting: Soft materials like foam or rubber are best cut with pure water and without adding an abrasive. These cutting systems which are typically used in the series production of flat gaskets, require especially good dynamics in order to be able to work quickly and efficiently. Thanks to the pure water nozzles with a cutting jet diameter of 0.08–0.3 mm, there is little waste. Thicker elastomers can also be cut with pure water, just slower. Time and costs can be saved during the setup, for instance, by means of an alternating table system.

WJC Pure Water with Shuttle Tables

Does setup take too much time?
Then you are well served with this unit.



Catcher

Pure water cutting units can also be equipped with a catcher instead of a cutting basin. With the specially developed catcher system both splashing water and steam are reduced to a minimum. Depending on the model, the system is powered together with the gantry or via its own powertrain. In the case of shuttle tables, the catcher automatically adjusts to the height of the table.



Symbol photo

WJC^{PW} 8-Head
“Revolving Shuttle Table System”

Machines with several revolving shuttle tables have proven themselves in series production with large quantities as well as wherever the setup takes a lot of time. This unit has three zones: a loading zone with fully automated loading, a cutting zone with eight automatically adjustable cutting heads, and catchers as well as an unloading zone. Three to four revolving cutting pallets ensure that the cycle is guaranteed and each zone has a pallet. The unloading is done manually.



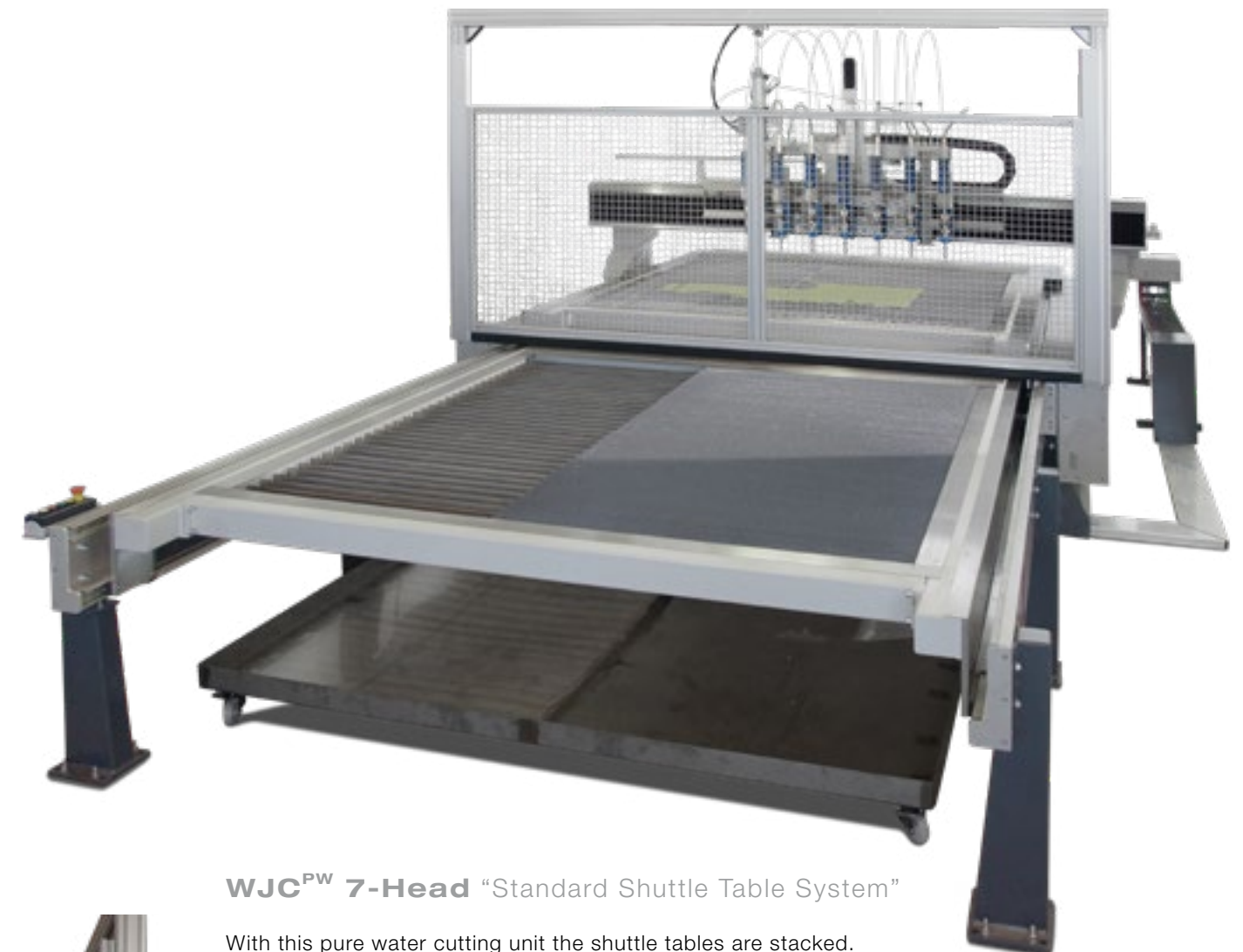
Working surface: 2,500 x 1,300 mm
Other sizes available upon request



Automatic Cutting Head Adjustment

The automatic cutting head adjustment is convenient and saves time and money. The distances between the heads are usually given by the cutting job or the nesting; the machine automatically places the cutting heads at the correct distance.

In the case of units with shuttle tables, the setup and cutting happen at the same time. This saves time and money and makes the system much more productive. The pure water cutting units with shuttle tables are moreover especially dynamic and ideally adapted to the application in question.



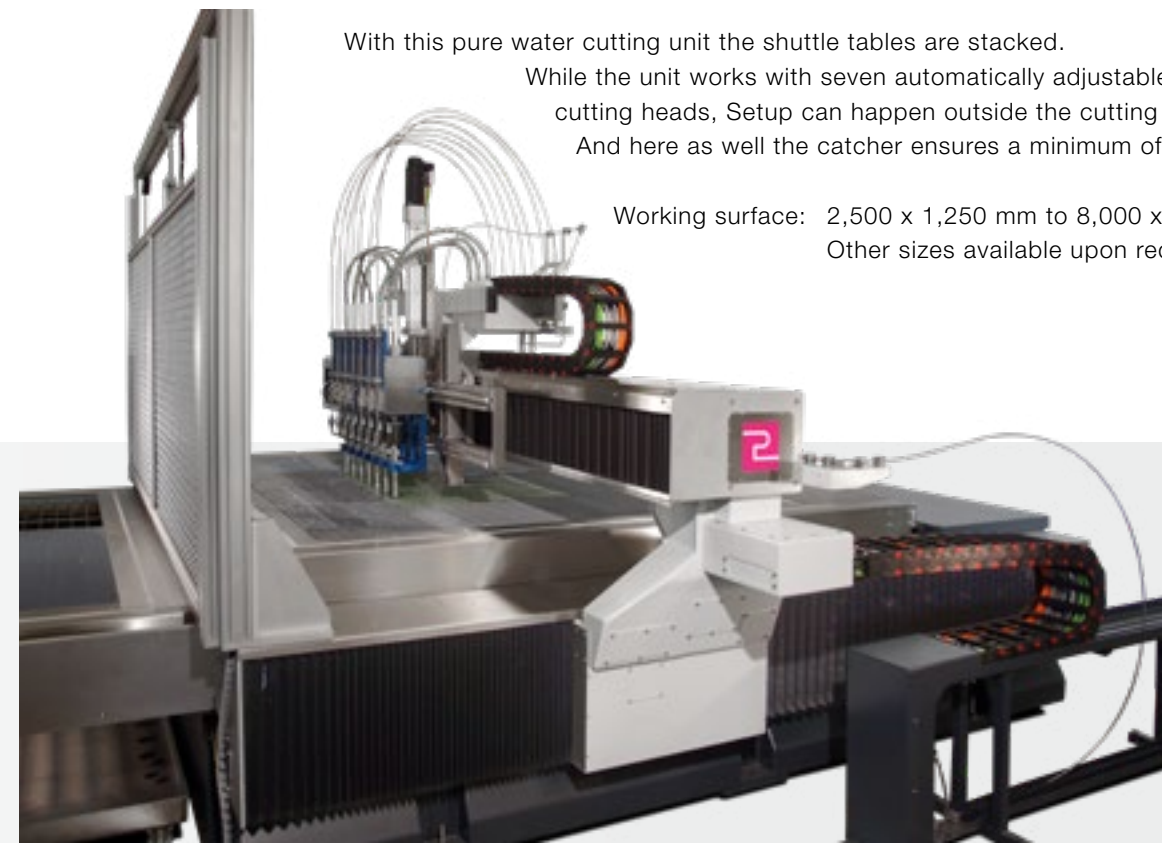
WJC^{PW} 7-Head “Standard Shuttle Table System”

With this pure water cutting unit the shuttle tables are stacked.

While the unit works with seven automatically adjustable cutting heads, Setup can happen outside the cutting area.

And here as well the catcher ensures a minimum of steam and spray.

Working surface: 2,500 x 1,250 mm to 8,000 x 2,500 mm
Other sizes available upon request



Symbol photos

WJC

Specialised Units

Do you need a unit that is going to work efficiently, and that is as special as your product? We build it!



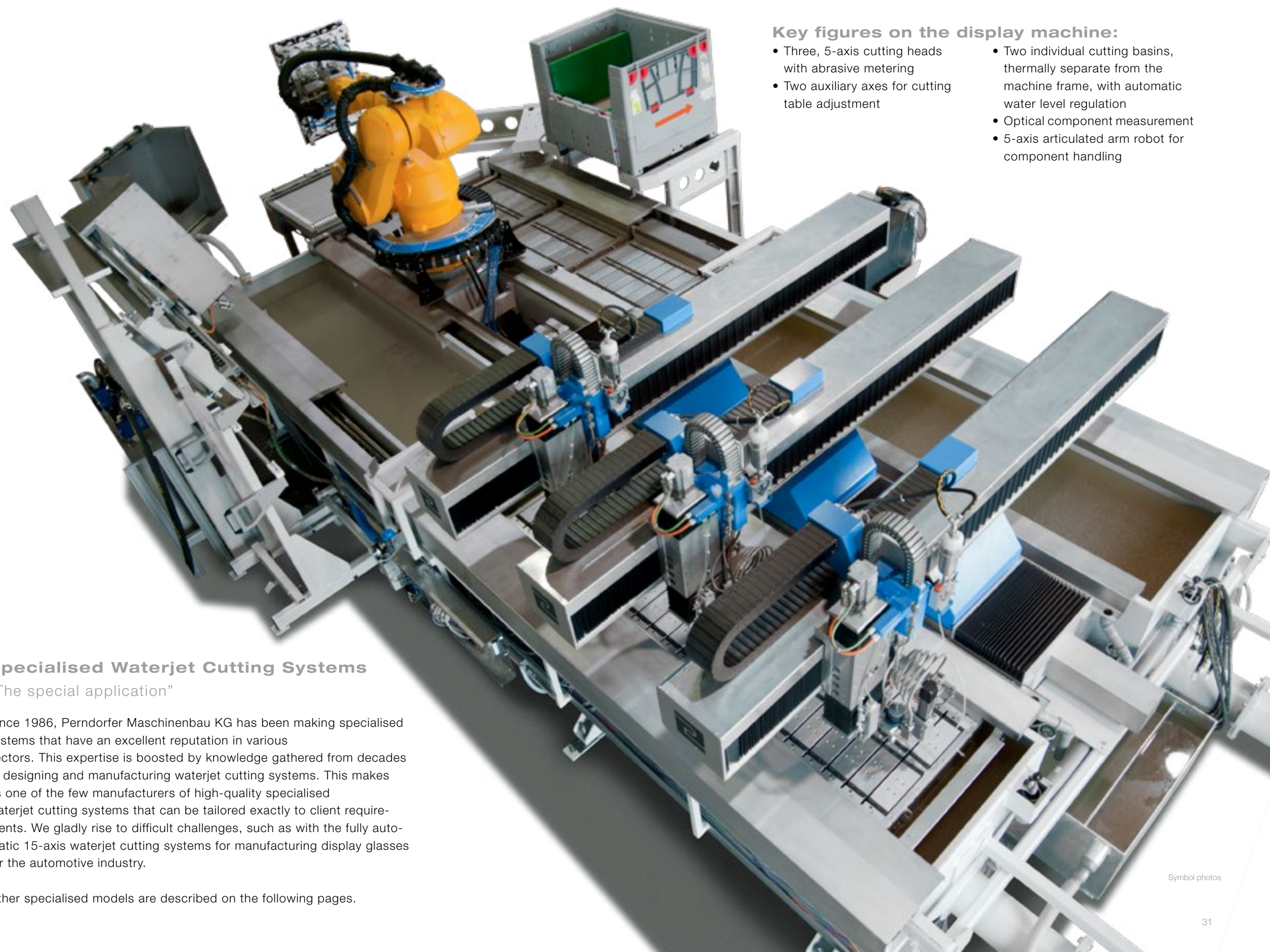
Production Lines

We integrate the water jet cutting systems in complete production lines and incorporate it perfectly in the safety concept for the entire system. Communication with the control stand and the automatic transmission of cutting data are clarified in detail in advance and subsequently realised.



Small Waterjet Cutting Units

We also develop and produce small waterjet cutting units or waterjet cutting units with special clamping devices. Moreover, the control system of these is designed in an especially user-friendly way.



Key figures on the display machine:

- Three, 5-axis cutting heads with abrasive metering
- Two auxiliary axes for cutting table adjustment
- Two individual cutting basins, thermally separate from the machine frame, with automatic water level regulation
- Optical component measurement
- 5-axis articulated arm robot for component handling

Specialised Waterjet Cutting Systems

“The special application”

Since 1986, Perndorfer Maschinenbau KG has been making specialised systems that have an excellent reputation in various sectors. This expertise is boosted by knowledge gathered from decades of designing and manufacturing waterjet cutting systems. This makes us one of the few manufacturers of high-quality specialised waterjet cutting systems that can be tailored exactly to client requirements. We gladly rise to difficult challenges, such as with the fully automatic 15-axis waterjet cutting systems for manufacturing display glasses for the automotive industry.

Other specialised models are described on the following pages.

WJC Specialised Units

Client Solutions

Do you have special requirements, wishes, or ideas?
We are always endeavoured to fulfil these.

WJC^{HE} Double Gantry

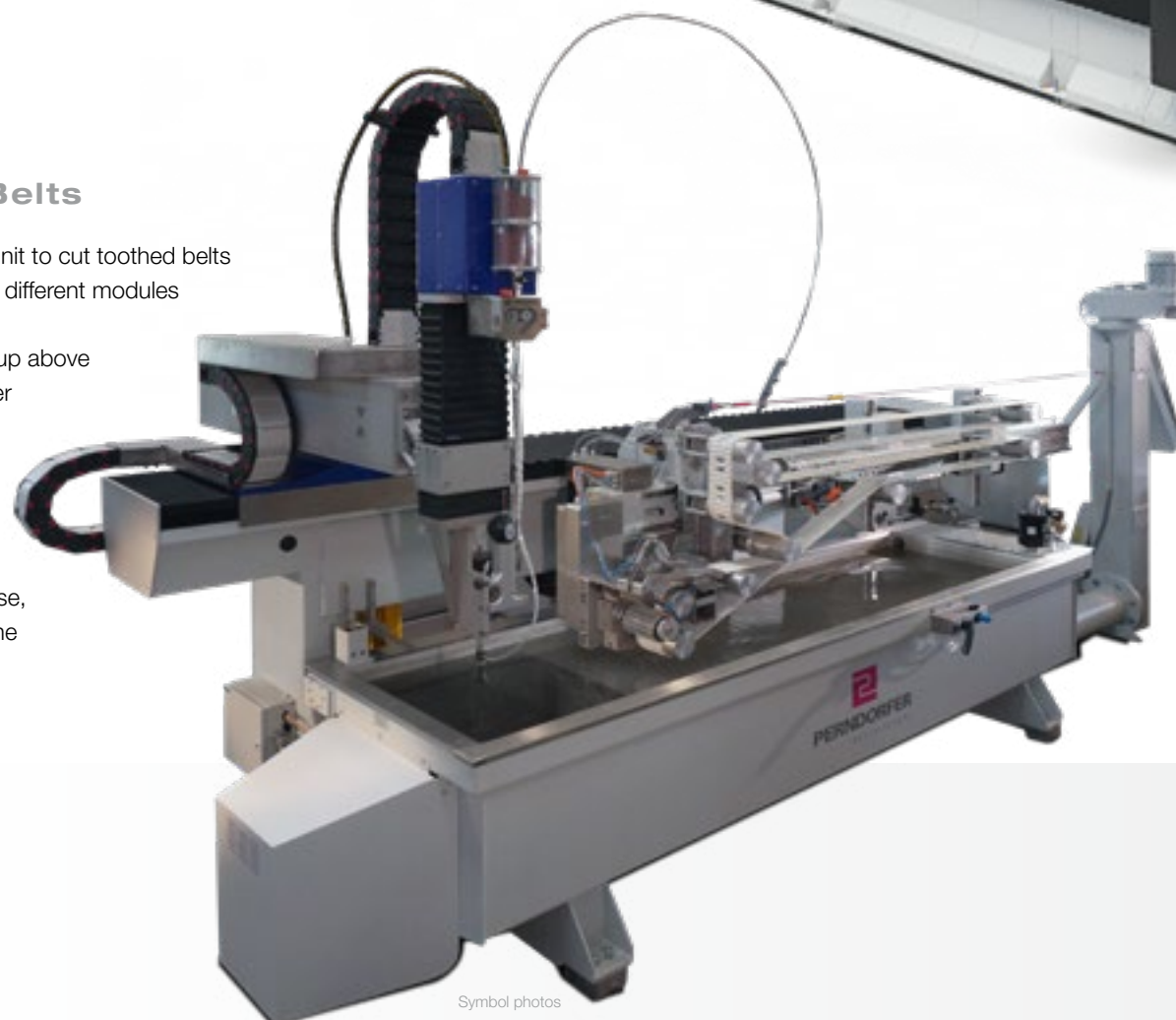
- Cutting basin with a working surface of 12 x 4 m
- Two gantries that work independently of each other
- A gantry can work up and down the entire working surface of 12 x 4 m
- Dual Perndorfer sludge removal
- Four, 5-axis cutting heads
- Upon request the control panels are affixed to the gantry



Symbol photos

WJC for Toothed Belts

- Specialised waterjet cutting unit to cut toothed belts with a length of 1 - 14 m and different modules
 - Small flatbed area
 - Lifting unit for convenient setup above water and cutting below water
 - Belt rinse
 - The software was adapted exactly to the requirements, like with all specialised waterjet cutting units.
- This way the unit is easy to use, efficient, and complies with the application purpose



Symbol photos



Unit to cut toothed belts



WJC

Specialised Units

Client Solutions

Are you interested in a WJC unit to cut tubes, Klöpper heads, and flat materials?
We have designed such a unit.



Powertrain Unit

The massive tube powertrain unit ensures even movement for larger and smaller tubes weighing up to 10 t. Like all of Perndorfer's clamping chucks, this is also completely resistant to the harsh environment of the mixture of abrasive and water.



Working Area

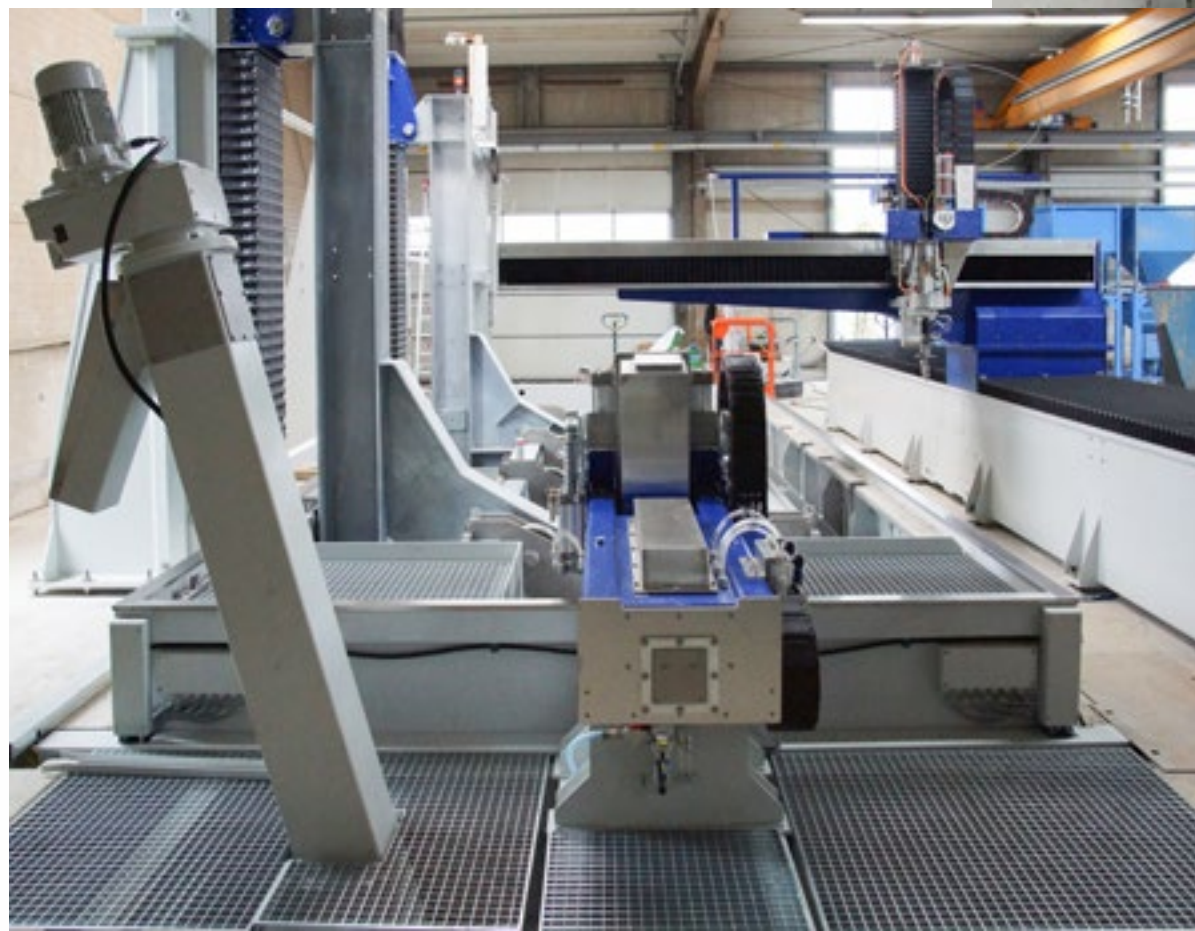
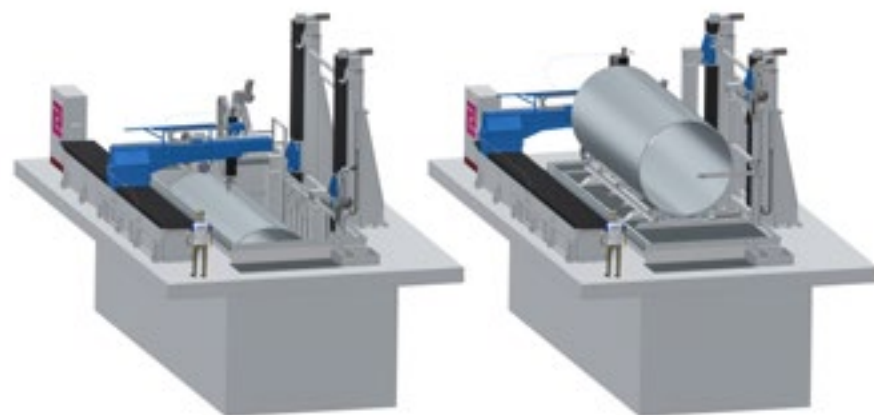
With the lifting towers the tubes can be lowered into the cutting basin and cut under water.

This is made possible by Perndorfer's perfectly functioning sludge removal system. It prevents the slats from resting in the sludge. A specially developed drift compensation determines the movement of the tube which is then compensated for by the control system.



WJC Tube 2500/6000

- Cantilever XL and full 3D cutting head
- Cutting basin 9,000 x 3,500 x 3,500 mm, embedded in the floor
- Lifting towers for setup above water and to cut tubes under water for tubes D = 150 to 2,500 mm, L = up to 6,000 mm, H = up to 10 t
- Automatic drift compensation
- Flatbed area to cut sheet material 3,000 x 2,000 x 600 mm
- Cutting Klöpper heads with a diameter of up to 2,000 mm



WJC

Specialised Units

Client Solutions

Effective, time saving, and clean:
Perndorfer's patented cutting system
is a milestone in cutting brick walls.



A Clean Solution

Installation slots and other recesses can be milled out prior to the installation of the walls. This reduces mess on the construction site. As the system works on a vertical plane, very little water penetrates the wall.

Waterjet Cutting System for Brick Walls

This system is effective, saves time, and is clean. The patented cutting system by Perndorfer is a milestone in the machining of brick walls. With this system, walls can be cut and the necessary recesses for electrical outlets and cables can be cut out to be perfectly smooth. Because the cutting process takes place on a vertical plane, very little water penetrates the wall. The waterjet cutting system is used in the construction of solid prefabricated houses. The manufacturers of brick setting machines or brick products are the target group for this system.

Component data – Brick width: 100–500 mm
Brick wall height: up to 3500 mm
Brick wall length: up to 12,000 mm
Weight: 20,000 kg



Machining of Entire Walls

Whether windows, doors or outside edges – brick walls can be designed as smoothly as possible with this system by Perndorfer. This system works quickly, precisely and helps to save valuable time.



WJC – The System

Best technology with the best service– under one roof

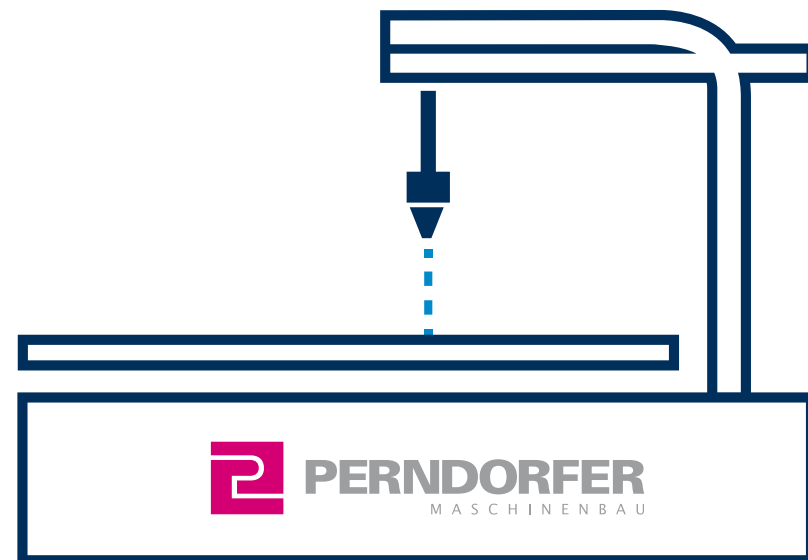
Perndorfer Maschinenbau and Hapro Technik – Our Partnership is Your Advantage

Hapro Technik grew out of Perndorfer and manages the high - pressure technology, supplying the material (e.g., abrasives), water treatment, wastewater treatment, and service.

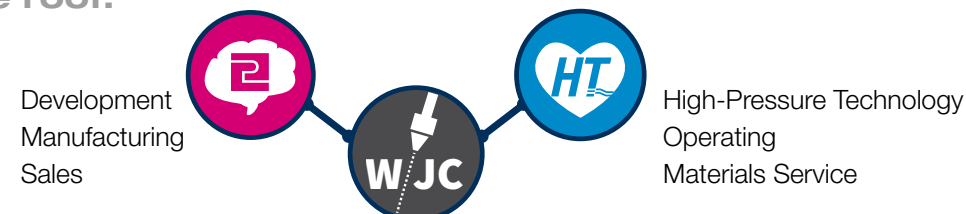
At Hapro Technik you will receive knowledgeable advice and everything you need. Perndorfer Maschinenbau KG focuses on development and engineering.

At Perndorfer, after-sales service is not something that just happens in passing, but rather it takes on a very special significance at Hapro Technik.

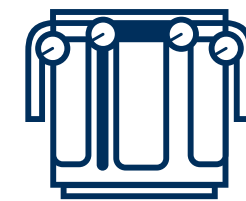
Perndorfer and Hapro Technik – we have the same address, speak the same language, and work to your advantage.



Under one roof:

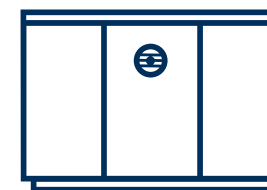


For water supply, wastewater treatment, or a closed water cycle..



Freshwater and wastewater treatment

- Water analyses
- Purifying system
- Recycling system
- Preparing system



High-pressure technology

- HT cutting heads
- HT expert injector system
- HT high-pressure pumps
- HT high-pressure lines



Materials

- Focusing tubes and water nozzles
- Abrasive material
- All spare and wear parts



Service

- Advice and support
- Maintenance and repairs
- Service packages



Details and information about all the products and services of our partner are at www.haprotechnik.com



HT HAPRO TECHNIK
Premium Technology for Waterjet Cutting.

WJC ACCESSORIES

Even the best unit can be better.

Our accessories and fittings help us achieve our goal. They help each of units become fully-featured systems. Perndorfer provides everything from its own facility.

Even spare and wear parts can be procured in short order.

Thanks to the close cooperation with our subsidiary **Hapro Technik**, supply is secured, and idle times in the work process are avoided.

Developed by Perndorfer, incorporated by Hapro Technik into the product portfolio:

Servo-Jet4000 “The Master of Energy Savings”

Perndorfer’s patented 3-piston plunger pump “Servo Jet 4000” ensures high pressure. The directly powered pump type (no oil hydraulics) wins over with large flow rates with the lowest energy usage and is energy efficient thanks to servo technology particularly.

The energy requirement for the use of a water nozzle $D = 0.3 \text{ mm}$ corresponds to 21 kW. The large flow volume of max. 8.4 l/min makes it possible for instance to use three water nozzles with $D = 0.3 \text{ mm}$. The maintenance intervals of over 1,250 hours of operation as well as low operating costs are additional advantages of the Servo Jet4000. The “Servo Jet4000” is recommended for pure water cutters with near record-breaking switching cycles.

Also featured in the product portfolio are high-pressure pumps based on the principle of pressure intensifier with a motor capacity of from 10 to 90 kW and pressure up to 6200 bar.

WRA 700 “H2O Cycle”

Perndorfer’s patented **water recycling system** helps save water. It is easy to integrate into existing systems, requires little energy and freshwater, and is easy to use. The filter elements are almost wear-free. Moreover, no wastewater enters the duct system.



Symbol photos



Symbol photo



WJC ACCESSORIES

Abrasive Conveyor

Perndorfer's and Hapro's abrasive conveyors ensure that the abrasive is conveyed on a continual basis. The abrasive material is blown using abrasive conveyors only to the abrasive dosing at the machine and is not sucked in by the abrasive dosing, which is easier on the abrasive tubes.

Automatic Abrasive Conveyor 2000I "Gravity"

The automatic abrasive conveyor "Gravity" can be filled with 2 tons of abrasive. Sensors continually monitor the levels of the containers. A warning light shows the level of the abrasive conveyor and signals and indicates if more abrasive is needed. The abrasive container can be filled without disconnecting the pressure of the system. For easier filling, the abrasive tank can also be lifted off the conveyor unit.

Abrasive Container 200I "Standard"

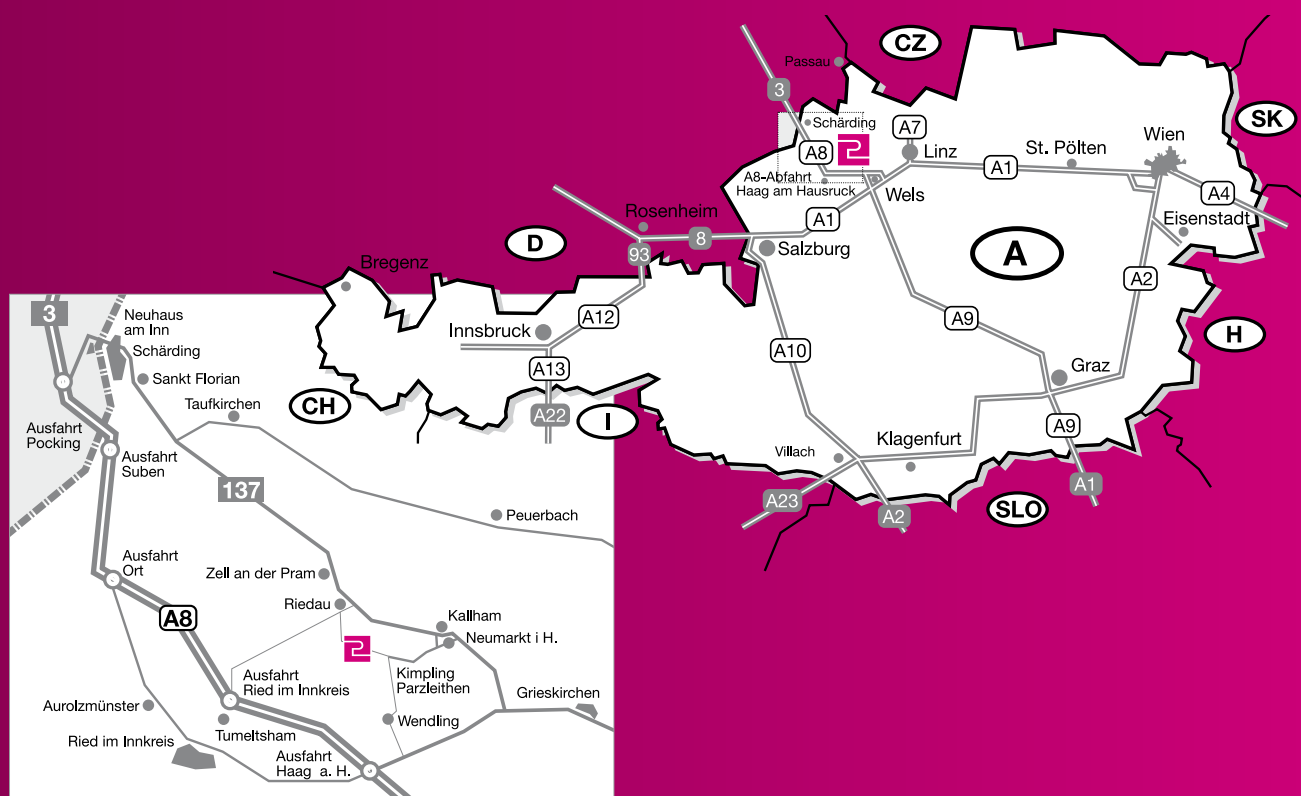
This abrasive container is usually filled with sacks and used with waterjet cutting units with one cutting head or as a second container for an alternative abrasive grain.

Automatic Abrasive Conveyor "Hoover"

With the "Hoover" automatic abrasive conveyor, the loose abrasive big bag is positioned beside the abrasive conveyor. The abrasive conveyor removes abrasive with a suction lance from the big bag and independently fills its container. The suction is continually monitored. There is no need to fill the pressure container by hand or lift heavy sacks full of the abrasive. A warning light shows the level, and the washable dust filter bag makes maintenance easy.



Symbol photos



Your Perndorfer representative is happy to advise you:

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