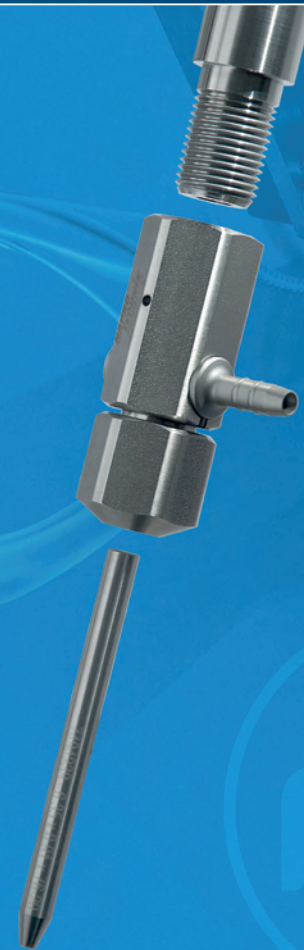


HAPRO TECHNIK

We keep your system flowing.



Your Specialist for Water Jet Cutting Products

High-Pressure Pumps, High-Pressure Technology, Water Treatment, Abrasive Technology, Service and Maintenance

2018

Hapro Technik expands its product and service portfolio and establishes itself with increasing success as a full-service provider of high-pressure technology for water jet cutting. The debut of the new high-pressure pump Servo-Jet4000 PURE is the world's first directly-driven plunger pump designed especially for pure water cutting.

2017

Intensification of the partnership with Perndorfer Maschinenbau KG, exclusive service partner for Perndorfer water jet cutting systems, commissioning of the first Hapro Technik Plus systems

2015

Adaption of the product portfolio, increased focus on high-pressure technology, bundling know-how as a full-service provider for water jet cutting

2004

Representation in Austria for the company HSB-Automation, linear technology, drive technology, handling technology

2000

Representation in Austria for the company Teseo, aluminium systems in modular design for the transport of compressed air, nitrogen, synthetic oils, mineral oils, and water up to 15 bar pressure

1997

Representation in Austria for the company Tecnoingranaggi, expansion of water jet cutting technology for the areas equipment and friction materials, high-pressure pumps, and abrasive technology

1995

Representation in Austria for the company Püschel, automation systems and handling technology

1993

Company founding, project planning, and sale of compressed air components



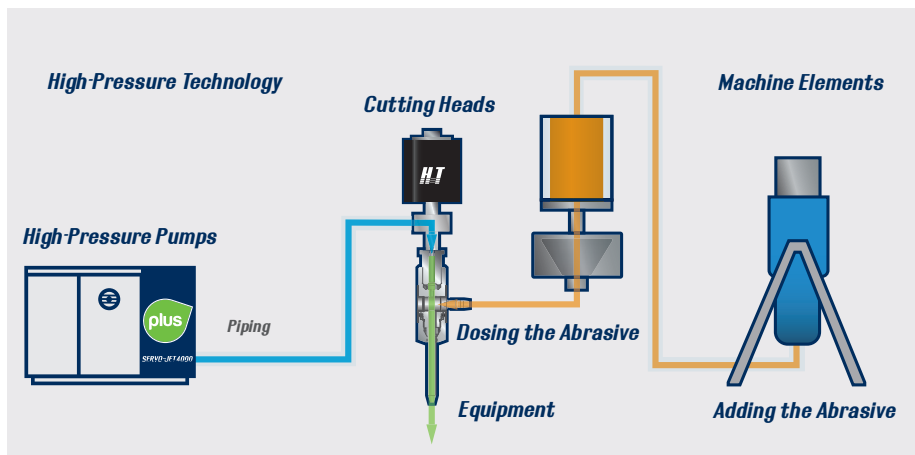
Contents:	Page
Hapro Technik Plus	5
Servo-Jet4000	7
Servo-Jet4000 PURE	9
Water Treatment	10
Premium Wear Parts	12
High-Pressure Technology	15
High-Pressure Pumps	17
Cutting Heads	18
Expert System	19
Equipment	20
Maschine Elements	21
Adding the Abrasive	22
Dosing the Abrasive	23
Maintenance and Service	25
Online Ordering	27

Our Vision: We aim to design water jet cutting efficiently and sustainably.

Our Mission: Our processes and products make it possible for everyone who uses water jet cutting to produce efficiently and, at the same, time to work sustainably.

Our Promise: We are working at full speed on your success.

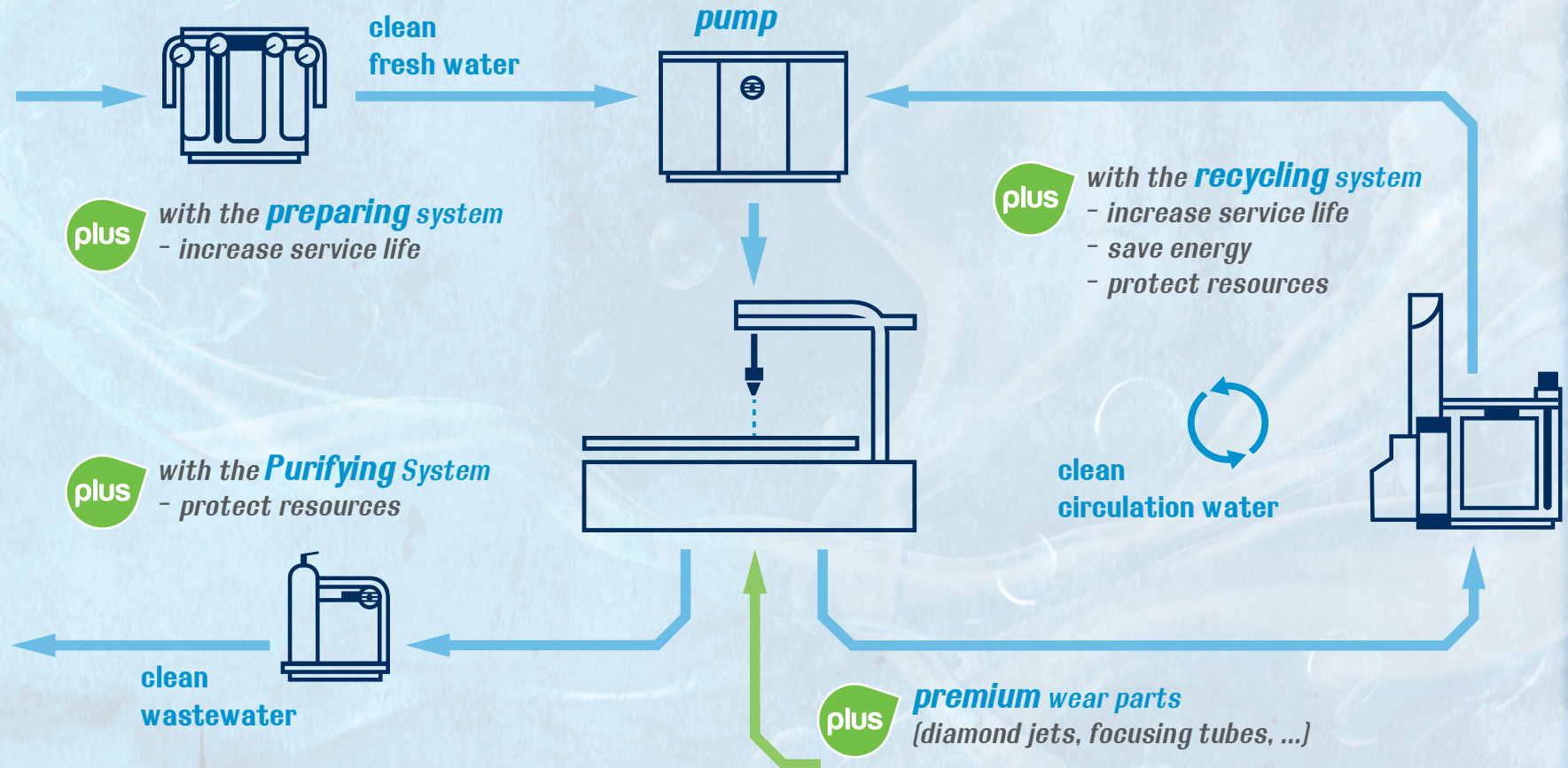
We can guarantee you the highest quality and the fastest delivery and are endeavoured to assist your workflow in the best possible way. Renowned partner companies trust in our reliability. In the area of water jet cutting technology our company has been a constant for many years. We apply our experience and know-how in a targeted manner to enhance water jet systems and to make them more efficient.



The team at Hapro Technik is your knowledgeable partner for water jet cutting!

Tel: 0043 7733 8026, office@haprotechnik.com, www.haprotechnik.com

For water supply and wastewater treatment OR for a closed water cycle





Efficiency and Sustainability with Hapro Technik Plus



- *Increase service life*
- *Save energy*
- *Protect resources*

Reduce the operating costs of your water jet system with products from Hapro Technik Plus

The effectiveness of water jet cutting machines can be increased considerably with Hapro Technik Plus systems. Efficiency, sustainability, and an environmental focus are extremely important to us.

The products in our Plus series are developed according to strict criteria – they are suitable to increase the service life of the machine, to save energy, and to protect resources.

The water quality and the quality of the installed components are mainly responsible for the service life of the machine. The Preparing System improves the water quality, while the Purifying System cleans the dirty wastewater.

Official requirements are met with ease. The Recycling System cleans the used cutting water so it can be reused in the cycle. The high quality of the Premium wear parts contributes to a smooth operation of the machine. The unique Servo direct-drive technology in the high-pressure Servo-Jet4000 pump considerably reduces energy consumption.

Enhance your water jet cutting system with us!

A full-page background image featuring a muscular man from the waist up, seen from the back and slightly to the side. He is splashing water, creating a large, dynamic splash of water droplets and bubbles around his head and shoulders. The entire scene is bathed in a deep blue light, giving it a cool, aquatic feel. The man's skin is wet and glistening, highlighting his well-defined muscles. He is wearing dark-colored athletic shorts. The word "Efficiency." is written in a white, italicized serif font in the lower-left area of the image.

Efficiency.

High-Pressure Pump Servo-Jet4000. The probably most energy-saving high-pressure pump in the world.

The "Plus" in the Hapro Technik Plus Systems stands for major advantages over conventional peripheral equipment in a water jet cutting system.

The Servo-Jet4000 clearly demonstrates the highest level of efficiency with its exceptional energy efficiency and simultaneous high cutting speed.





- Increase service life
- Save energy
- Protect resources

High-Pressure Pump Servo-Jet4000



Servo-Jet4000

8



A well-thought-out principle that is very effective.

Compared to a conventional high-pressure pump, the Servo-Jet4000 foregoes ineffective hydraulic systems. A plunger pump with three pistons coupled with a highly efficient Servo direct-drive boosts the overall efficiency to almost 98 %.

At low power consumption (max. 55 kW) there is a large output of (max. 8.4 l/min). This makes it possible to supply several cutting jets at the same time and means the leap into a new, future-oriented efficiency class.

The Servo-Jet4000 replaces the costly 6,000 bar technology – the highest cutting speed in the cutting system is achieved using large water jets (up to 0.5 mm) – at low operating costs and low energy consumption.

Advantages of the Servo-Jet4000

- Up to 40 % energy savings compared to conventional systems, investment is eligible for grants
- High energy efficiency: Servo direct-drive, no reactive current, low and flexible current consumption
- Low connected load required: No power consumption when the system is at a standstill, suitable for operations with low energy supply
- Plunger pump with three pistons: High power density and high level of efficiency of up to 98 %, replaces 6,000 bar technology, long maintenance intervals, simple structure, no hydraulic system, no warm-up and startup phase – ready to go right away
- Permanent pressure control and integrated pulsation damping: Continual readjustment of the cutting pressure on the set point – no pressure fluctuations, higher cutting speed than with the pressure intensifier in a comparable combination
- Lowest noise level of 75 dB: High-quality, complete unit with sound hood
- Can be used in all water jet cutting machines and brands

Additional advantage of the Servo-Jet4000 PURE:

- Developed especially for pure water jet cutting
- Switch cycles under one second
- High-precision pressure control
- Allows for unparalleled cutting speeds

High-Pressure Pump Servo-Jet4000 PURE

Pure Performance – Pure Speed – Pure Precision

The world's first direct-drive plunger pump – especially developed for pure water cutting.



The innovative technology allows for record-breaking switch cycles of under one second.

The high-precision pressure control – combined with an accumulator – guarantees a constant water jet and allows for unparalleled cutting speeds.

The use of quality components promises a long service life and the same for the high-pressure pump.

That is water jet cutting at its finest!





- Increase service life
- Save energy
- Protect resources

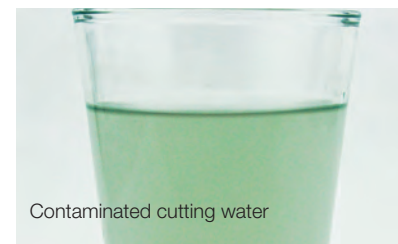
Water Recycling with the Recycling System HTRS.

Save fresh water costs and wastewater costs and any possible required inspections, by reusing your cutting water in the cycle. In addition, the HTRS System enhances the cutting water thereby prolonging the service life of your machine

Generally speaking, water jet cutting is an environmentally friendly technology. However, given that a single cutting head uses on average 400,000 litres per year, large amounts of drinking water are needed. Once used, the water drains into the sewer which leads to considerable expenses. In many cases, these expenses involve disposal costs to remove traces of problematic materials left in the water after cutting.

At Hapro Technik it is important for us to keep the ecological footprint as small as possible. In the HTRS system (Hapro Technik Recycling System), the cutting water is processed without any chemical additives and fed via an intermediate container back to the high-pressure pump. This saves water, makes it easier to obtain an operating permit, protects the environment, and is less costly. The maintenance costs and energy consumption are low.

- Self-sufficient and independent of manufacturers, therefore
- Easily integrated into existing systems
- Extremely low maintenance
- No wastewater in the sewer, and as a result
- Independent of regulatory requirements
- Can be used everywhere (sewage treatment plants, industrial wastewater treatment, etc.
- Cutting water treatment without chemical additives



Contaminated cutting water



Cleaned, recycled cutting water

Preparing System HTPR-EVO

Ideal water quality for supplying high-pressure pumps.

Whether or not a high-pressure pump performs well depends mainly on the water quality. Instead of more elaborate technology, the Preparing System HTPR-EVO uses intelligent and effective materials to optimise all aspects of water which could reduce the service life.

With the Preparing System HTPR-EVO, maintenance intervals can be prolonged by 50–500 % which constitutes a considerable cost savings. At the same time, operational safety is increased by a reduction in damages to the high-pressure pump as a result of water-related malfunctions. Thus, the amortisation is fast and the consumption costs are moderate.

Purifying System

The Purifying System cleans the polluted wastewater. Official requirements are met with ease.

Thanks to the special filtration technology used in our Hapro Technik Plus Systems (Preparing, Purifying, or Recycling), contamination of the high-pressure pump can be prevented.



- Reduced wear and maintenance costs
- „Plug-and-play“ installation
- Individual tweaking to the available water quality
- Can be used in all water jet cutting systems

With the Hapro Technik analysis case the water quality is determinable easily.





- Increase service life
- Save energy
- Protect resources

Premium Wear Parts for Exacting Requirements.



High-quality wear parts and consumables provide peace of mind when it comes to workpiece quality and machine availability.

Increase the productivity of your machine and, at the same time, reduce your running costs with Hapro Technik Plus Premium Wear Parts.



Water jets (e.g., TetraCORE™)



Focusing tube (e.g., ROCTEC 500)

Premium Wear Parts from the Hapro Technik Plus range feature the following advantages:

- Increase machine productivity
- Shorten machine downtimes
- Reduce set-up times
- Minimise the use of resources
- Optimise OEE (key figure to assess the overall effectiveness of the machine availability, performance, and quality factors)

Premium abrasive material

The unique hardness and strength of the GMA Garnet guarantees the highest possible cutting capacity and cutting-edge quality. Thanks to the accurate screening, the highest quality is guaranteed. Cutting speed and consumption are streamlined.

Choose from high-quality premium products with a fair price-performance ratio.



Abrasive cutting heads (e.g., Mixing Chamber Premium, 3D Premium)



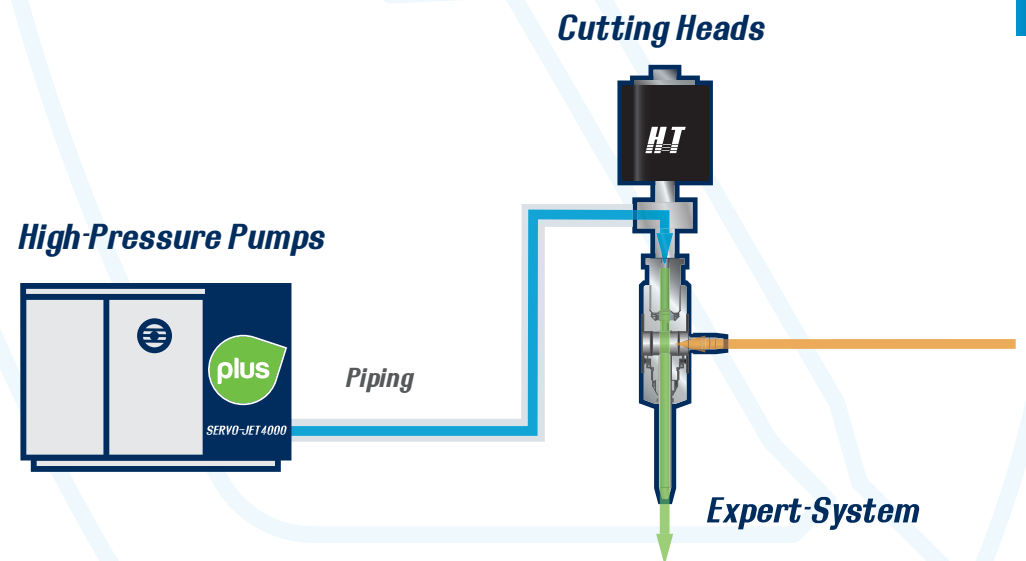
A woman in a white martial arts gi with a black belt is captured in a dynamic pose, performing a precise punch. She is positioned on the right side of the frame, facing left. Her right arm is extended forward, and her left hand is raised near her face in a defensive or preparatory position. The background is a deep blue with a textured, almost metallic appearance, featuring several large, stylized water splashes that create a sense of motion and precision. The lighting is dramatic, highlighting the contours of her gi and the intensity of her expression.

Precision.

High-Pressure Technology



As a specialist for water jet cutting products we know the requirements of your machine exactly. Regardless of whether you need high-pressure technology for a standard or special application, we deliver customised solutions with a fair price-performance ratio which thoroughly satisfy your requirements.

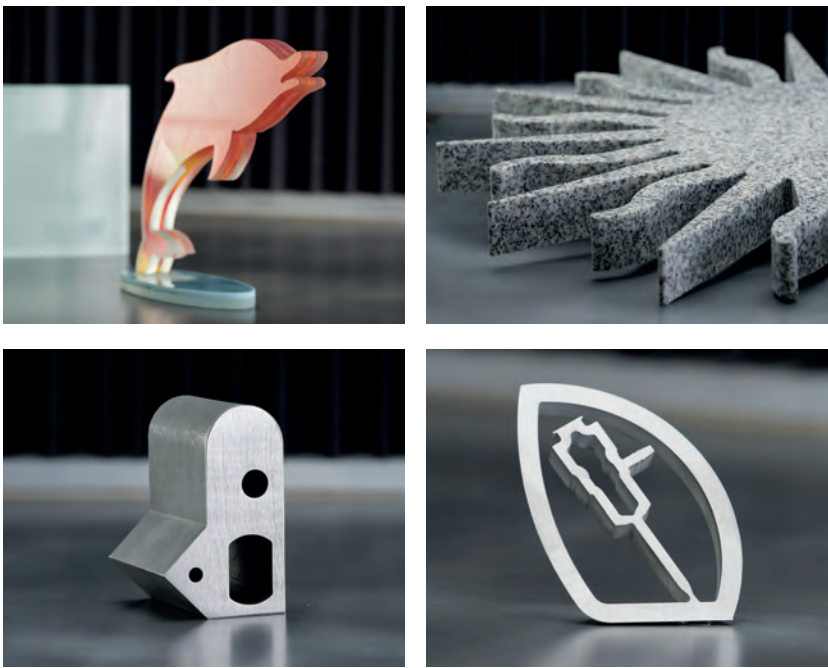


High-Pressure Technology



High pressure makes high demands on quality and workmanship of a water jet cutting system and on its peripheral equipment. Even the system's efficiency depends to a large extent on the quality of the system components.

We develop and produce sturdy and sophisticated high-pressure technology and, thanks to our large range of products, we can quickly deliver the right original replacement and wear part for every customised requirement.



Consultation	Service	Spare Parts
		
In person or on call/ e-mail/service-request	Professional maintenance and repairs, knowledgeable technicians	High-quality parts, available immediately ex-stock

High-Pressure Pumps

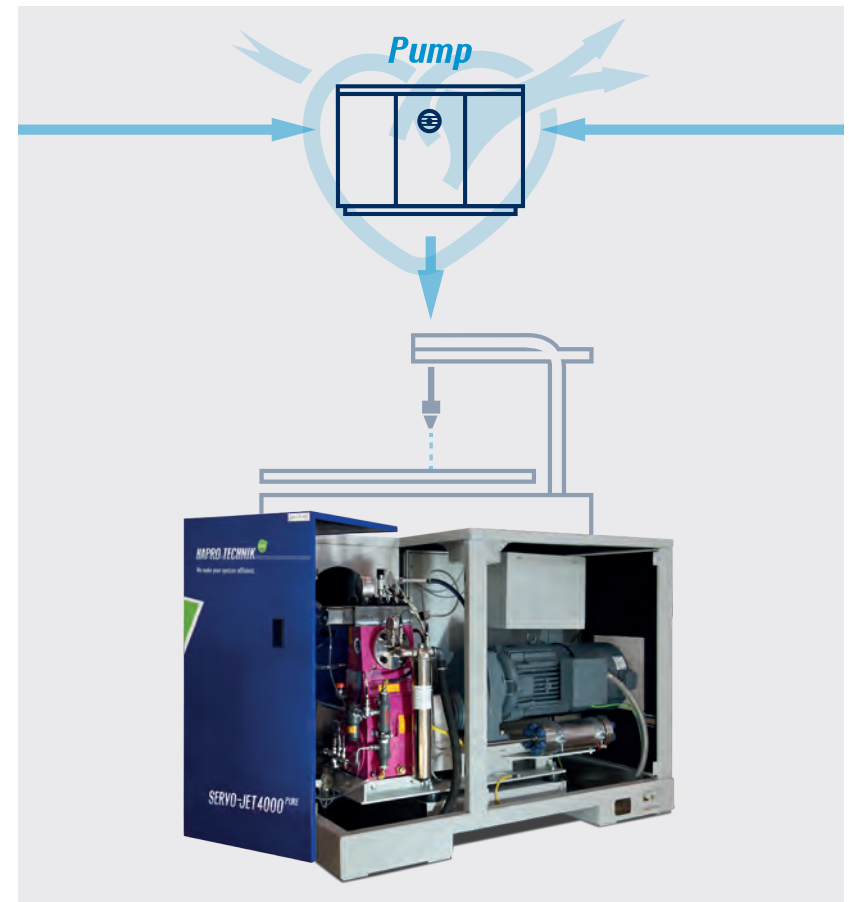
At the heart of every water jet cutting system is the high-pressure pump:
The more efficient the pump, the more efficient the entire system!

In addition to our own high-pressure pump series Servo-Jet4000 we also carry high-pressure pumps from well-known manufacturers, with whom we maintain permanent partnerships. Our many years of experience help us help you choose the right pump for your system.

For the longevity of your new high-pressure pump we offer our know-how, which we are happy to share with you in ongoing trainings. Take advantage of our excellently trained service technicians and a prompt supply of spare parts.



Our product range comprises pumps in the 4,000 bar and 6,000 bar classes. A high standard of equipment and a top price-performance ratio are always a matter of course.



Servo-Jet4000 and Servo-Jet4000 PURE – The most energy-saving, high-pressure pumps in the world!

Cutting Heads by Hapro Technik.



All of the cutting heads are developed and produced in accordance with high performance and quality criteria. We put great emphasis on continually improving our product. We combine the latest research findings in high-pressure technology, material and manufacturing technology with our extensive experience. This means you receive products with maximum added value:

- Precise adjustment possibilities for your individual requirements
- High throughput for the operation of large water jets
- Simple maintenance
- Long service life of the seals and components
- Short set-up times



Typ Full-3D 90°
With swivel, abrasive

Typ 90°-2D
Abrasive

Typ 45°-2D
With HD-filter, abrasive

Typ 90°-2D
With HD-filter, pure water

Application areas:

- pure water cutting
- Abrasive cutting
- Two-dimensional applications
- Three-dimensional applications
- Customised productions: Hapro Technik develops uniquely adapted cutting heads for your individual requirements.

Expert System – The Professional Solution from One Provider.

To cut hard materials every water jet cutting system requires the addition of abrasive material. This is added directly in the cutting head via an injector. Hapro Technik's (abrasive) injector system provides your cutting system with many great advantages:

- High cutting capacity: High flow of water and abrasive
- Durable: Sturdy workmanship
- Short set-up times: Water jet and mixing chamber can be changed separately
- Quiet: Low noise level
- Adaptive: Adjustable to changing requirements possible
- Independent of manufacturer: Use of standard sizes for jets and focusing tube
- Flexible: Usable for cutting heads of all makes

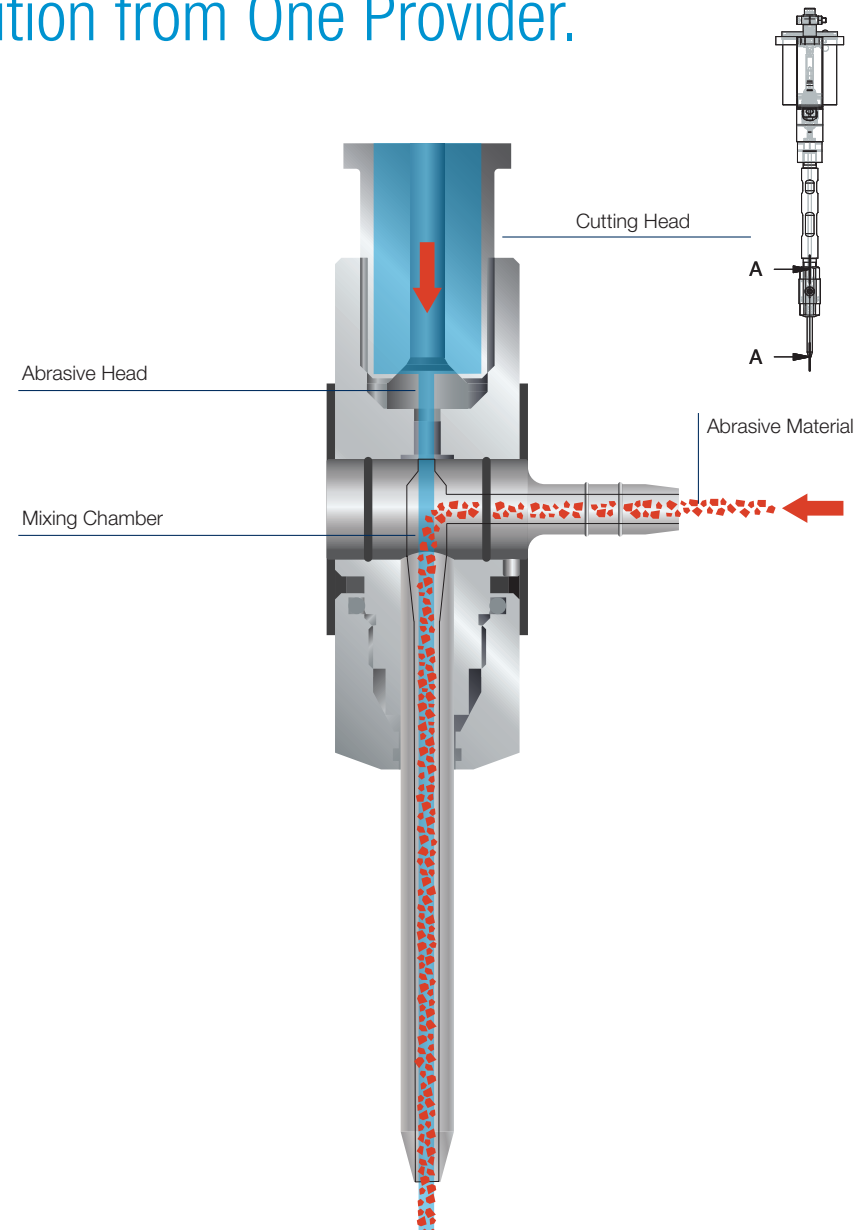
For an even higher level of optimisation, premium models from the Hapro Technik Plus product range are available.

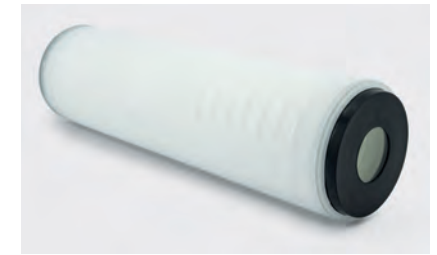


Abrasive System Expert 2 hole



Abrasive System Expert three-dimensional



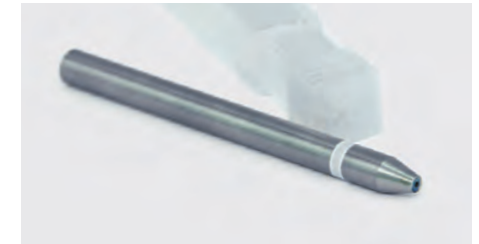


Equipment

A major success factor in water jet cutting is a reliable partner who continually supplies the system with equipment, spare and wear parts, and is on hand for maintenance and other service needs.

Hapro Technik has been satisfying this requirement for many years.

At Hapro Technik, everything comes from one provider. We very carefully choose and test all of the equipment, spare parts, and wear parts. We ensure that they are readily available with short delivery times. Our range of equipment includes focusing tubes and water jets in all standard sizes. The abrasive material comes from India or Australia and is, for the most part, available ex-stock in all common grit sizes.



Consultation



In person or on call/
e-mail/service-request

Service



Professional maintenance and
repairs, knowledgeable technicians

Spare Parts



High-quality parts, available
immediately ex-stock





Machine Elements

The successful operation of a water jet cutting system requires correctly designed high-pressure technology and appropriate machine components. In addition to a solid and reliable supply of abrasive, many other elements are required:

Height sensing

Sophisticated sensor technology helps prevent the workpieces from colliding. Various designs can be used for the two- and three-dimensional areas as well as for cutting with the angle error adjustment.

Workpiece support grate

With a massive basic structure and stainless-steel slats

Honeycomb sheets

Made of aluminium and stainless steel

Workpiece clamping tool

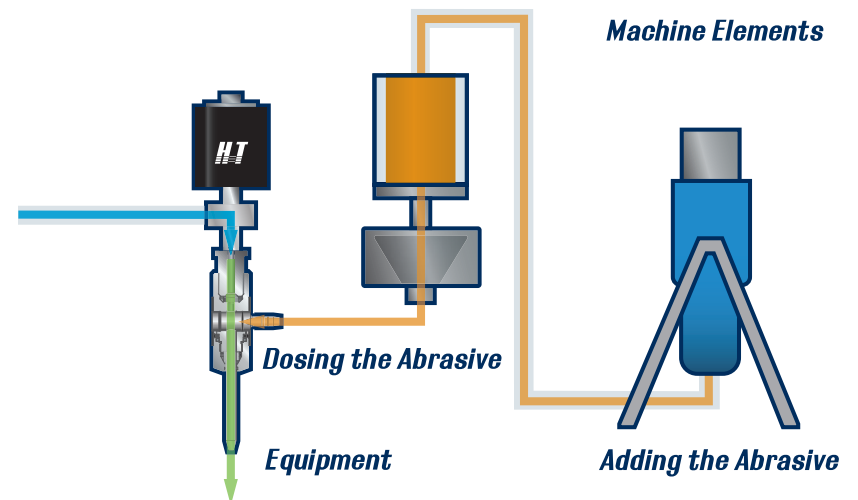
To position and mount the workpiece

Laser pointer

To visually mark the starting point

Accessories

Customised solutions for your system (e.g., splash guard, housing, ...)



Adding the Abrasive

We offer traditional containers right up to various convenient and fully-automated solutions for adding and dosing the abrasive material into the water jet cutting system.

Transporting the abrasive material to the water jet cutting system can be done, for instance, by the automated abrasive conveyor ASF. The abrasive material is sucked directly out of a BigBag with ease and in a reliable way. Then the Garnet is transported by way of compressed air to the abrasive dosage at the cutting system. The ASF signals a low level of abrasive material leaving enough time to switch out the BigBag.

The system operates independently of the machine control of the water jet cutting system and can be used for all brands.

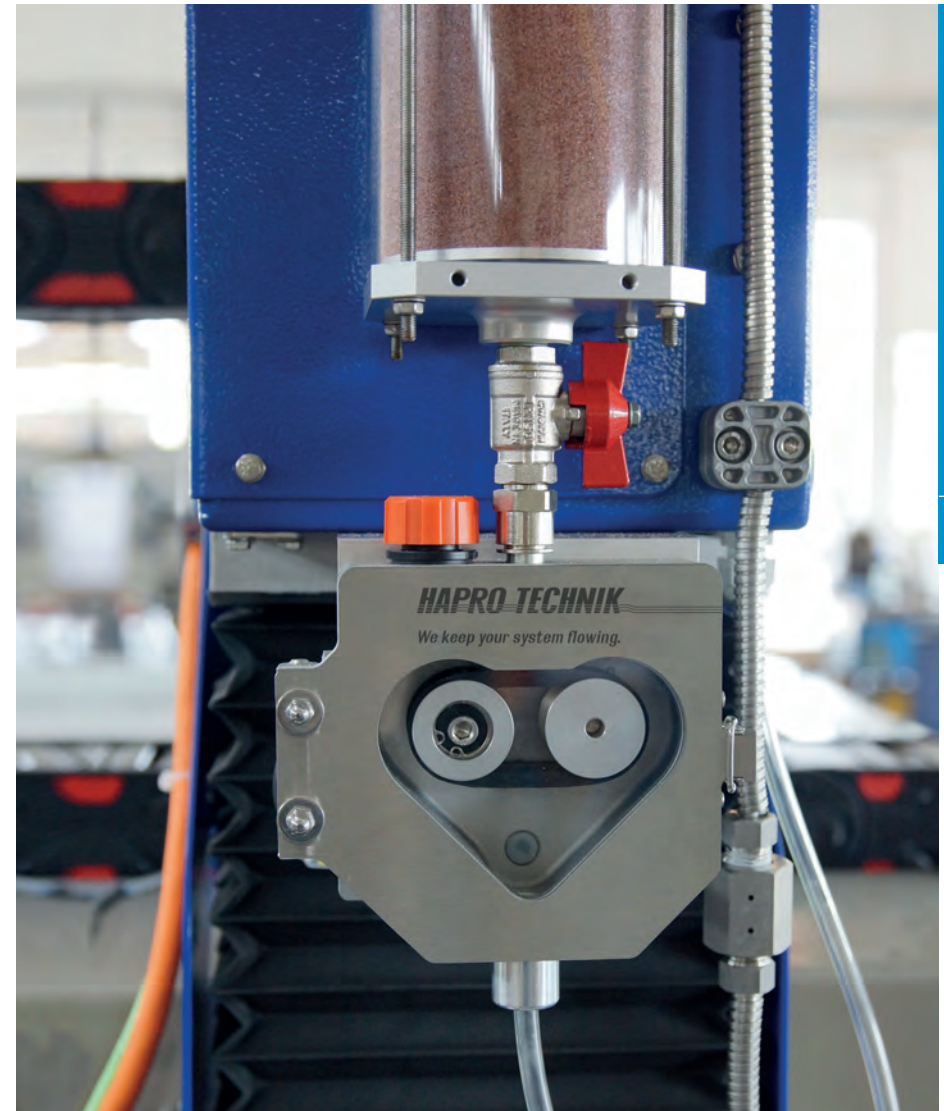


Abrasive sands

The fully automated abrasive conveyor ASF ensures the material is continually transported.

Dosing the Abrasive

Hapro Technik's abrasive dosage is installed right at the Z axis of the water jet cutting system. It features sturdy workmanship and low wear. The flow of abrasive is regulated smoothly and constantly. Integrated sensors reliably signal any abrasive clogs or problems with adding it. The dosage can be seamlessly integrated into the machine control. But it is also possible to control manually, whereby the abrasive dosage can also be installed subsequently in all brands.



A full-page photograph of a man in a black athletic suit running through water. The man is captured in a dynamic pose, leaning forward with his arms outstretched. The water is splashing around him, creating large, artistic droplets and bubbles. The entire image has a strong blue color cast. In the bottom left corner, the word "Speed." is written in a white, italicized serif font.

Speed.

Speed – Availability – Performance – Quality.

These are the most important factors when operating a water jet cutting system.

To ensure all of these factors over the long term, a perfectly coordinated maintenance regime is an absolute must. Our experienced team is always up-to-date on the latest technical developments of all well-known brands.

You can focus on cutting.

We focus on the professional maintenance and servicing of your system.

Perndorfer • Bystronic • BFT • UHDE • Hammelmann • JetCut • KMT • and other brands.



Maintenance and Service



Whether you have an urgent service call or a planned maintenance appointment – We'll take care of it!

The type and scope of the service will be determined together with you. We are endeavoured to perform the work quickly, professionally, and to your complete satisfaction.

„Service on the road“

Our service vehicles are equipped with a wide range of spare parts and wear parts. This lets our service technicians respond quickly and reliably.

Process reliability

Our maintenance packages are tailored to the system and the requirements. They include set checks and service work on your cutting system. As a result, you receive high cost transparency and increase the availability, performance, and quality for many years. Our experienced and specially trained service technicians test and service the system and all the peripheral equipment.

System optimisation

You benefit in many ways. By partnering with Hapro Technik you have a well-maintained system and benefit from our know-how in water jet cutting. In addition, we provide you with the latest products and information. Your tailored cutting process is continuously enhanced.

Industrie 4.0 – Preventive care

To boost system availability, we use state-of-the-art technology. The use of selected Hapro Technik Plus products makes it possible to perform maintenance more in line with the needs of the user. We inform you about necessary repair work. In addition, we reduce your operating costs!

Quality creates trust. Trust creates partnership.

Place your trust in us and see the quality of our products and services for yourself. Trust and partnership yield advantages. With our attractive **Service Card System**, you benefit from additional services.

Contact	Service Hours	Maintenance-Packages
 www.haprotechnik.com service@haprotechnik.com Tel. 0043 7733 8026 We respond promptly and reliably to your request	 Mon.–Thurs. 7:00 a.m.–4.15 p.m. Fri. 7:00– 12:00 Professional maintenance/ repair, knowledgeable technicians, high-quality parts	 Support maintenance, machine service, choose from modular maintenance packages and tailored to your requirements.

 **Service-Hotline: +43 (0) 7733-8026**  **@service@haprotechnik.com**

Used Systems

Our selection of used peripheral equipment and systems for water jet cutting has the right solution for many requirements. And here, too, we endeavour to deliver promptly so they can be put to use as soon as possible in your company.

Convenient Online Ordering



Whether in analogue or digital form, Hapro Technik is your knowledgeable contact for water jet cutting. Under haprotechnik.com you can conveniently place your order.

Hapro Technik Ges.m.b.H.

A-4720 Kallham, Parzleithen 8

Tel. +43 (0) 7733 - 8026, Fax +43 (0) 7733 - 7193

office@haprotechnik.com, www.haprotechnik.com



HAPRO TECHNIK

We keep your system flowing.

Hapro Technik Ges.m.b.H.

A-4720 Kallham

Parzleithen 8

Tel. +43 (0) 7733 / 8026

Fax +43 (0) 7733 / 7193

office@haprotechnik.com

www.haprotechnik.com

