

WHY TO CHOOSE AN STM WATERJET CUTTING SYSTEM

EASY TO TRANSPORT

- Up to type WS2515, the entire STM system fits in a 12-foot container.
- Only two units to transport – the machine and the HP pump.
- Easy and quick to install.
- The controller and abrasive system are connected to the STM waterjet cutting machine.
- The HP tubes are preinstalled – up to the waterjet valve.
- The STM waterjet cutting system is preinstalled and tested.

EASY TO OPERATE

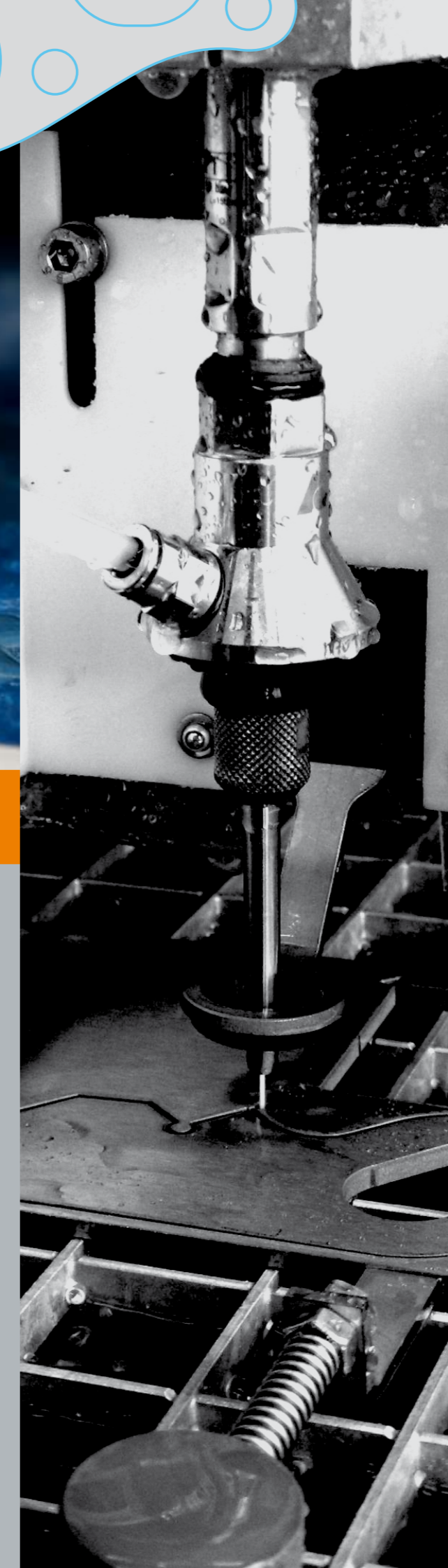
- Flat machine sides ensure easy loading and compact design facilitates accessibility.
- The EasyCut cutting software leads you to your goal in just a few steps.
- User-friendly features like remote pump control and automatic shutoff.
- Easy maintenance / Inexpensive spare parts.
- Efficient aluminum and stainless steel construction.
- The guiding system is encapsulated and has been designed for long lifetime.
- STM Waterjet System and HP pump statuses are displayed in plain text.

HIGHLY EFFICIENT

The STM Waterjet System delivers all the benefits of an abrasive waterjet cutting system, such as the possibility to cut parts out of almost any material – metal, stone, plastics, composites, glass, ceramics, or rubber – up to a thickness of 100mm with no heat-affected zone and superior edge quality. All of this is achieved with minimal tooling, fixturing and setup. The cutting direction can be changed easily, and the pressure and abrasive may be adjusted directly from EasyCut.



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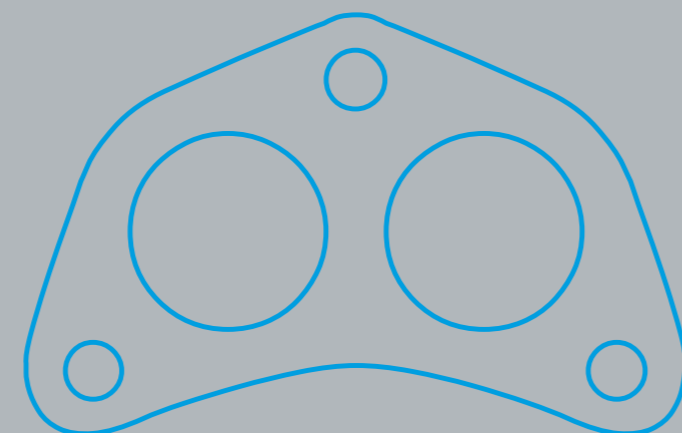


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WATERJET CUTTING SYSTEMS FOR THE FUTURE

A brand new generation of STM Waterjet Systems has been developed to meet the specific needs of our clients and their special cutting applications. A modern concept and efficient design characterize a reliable system that fulfils the latest shape cutting requirements.



STM Waterjet Systems offer our clients flexible, high-performance and tailor-made cutting solutions for any material and desired shape. Powered by a HYTRON High Pressure pump from Böhler/ Austria with a maximum pressure of 400 MPa, STM Waterjet Systems find their daily, efficient application in cutting various materials up to a thickness of 100mm, including:

- industrial gaskets, plastic materials, rubber
- foam materials
- stainless steel, aluminum, copper, titanium
- carbon fiber reinforced plastic, carbon fiber, composite materials
- granite, marble, glass, ceramics

The key benefits are that this waterjet cut does NOT cause any thermal stress and does NOT set free any toxic dust and/or vapor. The only tool we are using is pure water or – in abrasive mode – water and garnet sand. That's it!

The specially designed EasyCut waterjet cutting program uses CAD shapes for “wysiwyg” (what you see is what you get) programming and guarantees user-friendly handling and high-quality cutting performance. Reliable components and modern engineering minimize maintenance and costs for spare parts.

FEATURES & OPTIONS

STANDARD FEATURES

- Entire system in stainless steel and aluminum
- Covered slideways, flat side walls
- Brushless, digital AC servo motors
- Robust and durable system due to rack and pinion drive
- Pneumatic-actuated QuickUP Z-axis
- EasyCut, the waterjet cutting program

OPTIONS AND ACCESSORIES

- Automatic height sensor
- Collision protection
- Pump-pressure control by the cutting program
- Abrasive dosing by the cutting program
- Automatic abrasive desludging system
- Abrasive hopper ensures 20% increase in cutting performance
- Up to 4 waterjet cutting heads
- 40 m/min rapid transverse speed
- 0-35 m/min contouring range

CONSTRUCTION PRINCIPLE

The STM Waterjet System is a 3-axis CNC-controlled bridge-type machine with rack and pinion drive on both sides. Specially designed, dust- and dirt-protected slideways ensure abrasive resistance. The entire system is made of high-quality stainless steel and aluminum. Brushless digital AC servo motors guarantee precise, low-vibration positioning of the cutting head. All systems, with single and multiple cutting heads, allow you to adjust the z-axis directly at the simple push of a key. The STM Waterjet System is extremely robust and has been designed for continuous operation.

STANDARD CUTTING AREA SIZE

WS 1 0 1 0	cutting area 1000 mm x 1000 mm
WS 1 5 1 5	cutting area 1500 mm x 1500 mm
WS 2 5 1 5	cutting area 2500 mm x 1500 mm
WS 3 0 1 5	cutting area 3000 mm x 1500 mm
WS 3 0 2 0	cutting area 3000 mm x 2000 mm
WS 4 0 2 0	cutting area 4000 mm x 2000 mm

In addition, waterjet cutting systems with a length of up to 12m are available



IMPORTANT MACHINE COMPONENTS

1 CUTTING SYSTEM

The STM Waterjet System is ideally suited for short-run part production, just-in-time manufacturing, bulk production, prototyping and product development. It does not require tool changes or complex fixturing and allows you to reduce setup times by up to 50%. In addition, the smooth finish does not require expensive and time-consuming secondary machining. You will see that STM Waterjet Systems considerably increase your profitability!

2 CAD/CAM SYSTEM CONTROL UNIT AND CNC CONTROLLER

Fitted with an MS Windows standard PC, a fully digital CNC controller, digital CNC axes, as well as digital AC servo motors, STM systems ensure precise background control of safety management, axis positioning and SPS input/output management. The benefits are plain-text malfunction management, a high-speed CNC controller for low-vibration axis positioning, as well as a 10/100/1000 MBit network connection for easy data management.

3 ABRASIVE DOSING UNIT

The abrasive hose from the mini hopper to the abrasive head is very short and ensures constant abrasive flow. This accelerates cutting by up to 20% and increases cutting quality. The abrasive medium container has a capacity of 250kg of abrasive. You can refill the container at any time and place it up to 10 meters away from the mini hopper. The abrasive pressure hopper is located directly under the abrasive medium container and automatically feeds the mini hopper at the z-axis with abrasive. Through precise dosing, the abrasive

hopper system guarantees reliability and optimum cutting performance as well as savings in abrasive use.

4 AUTOMATIC HEIGHT AND COLLISION SENSOR

The height sensor automatically controls the distance between the cutting head and the work-piece surface. The highly fail-safe system automatically adjusts to the height of the work piece and keeps an ideal distance, even in the case of bumpy work pieces.

5 DESLUDGING SYSTEM

The automatic, SPS controlled, abrasive desludging system uses a high-performance pump to take in abrasive water from the STM Waterjet System. Water and abrasive are separated and a second high-performance pump reintroduces the water into the jet catcher via two rinsing heads. The abrasive can then either be disposed of in dry state or be recycled. This system helps you to save resources and to protect the environment!

6 EASYCUT WATERJET CUTTING PROGRAM

You can easily create and efficiently place the cutting program. The DXF and HPGL import function allows for an easy data import from any CAD program. Efficient and cost-saving placing of the cutting files minimizes your waste. In addition, our clients have the possibility to extend material lists as well as to switch over to the US measuring system. The cutting sequence and direction, as well as pressure and abrasive settings can be easily changed and adjusted via the EasyCut software.