MicroStep®

Product Catalog 2019

The right machine for every cutting task

Plasma
Laser
Oxyfuel
Waterjet

MicroStep

Your Partner for Cutting and Automation

In our 25+ years of history, MicroStep has supplied more than 2,500 cutting machines worldwide in cooperation with long-time channel partners spread over 54 countries. The focus of our company are hi-tech machines that accommodate industry's latest trends – delivery of fully automatic workplaces that combine different cutting/drilling/marking technologies in connection with automatic loading and unloading systems, all of which is customized for the particular manufacturing need. As a company with a background in automation we have been following demands for higher level of machinery automation, interconnection of control systems, CAM software and ERP systems for years – our in-house developed solutions of machine-to-machine and machine-to-enterprise communication have been winning interest and gaining adoption in enterprises throughout Europe, Asia, America and Australia for some time now. Digital transformation of manufacturing processes in line with the initiatives of Smart Industry and Industry 4.0 present us with a welcome challenge.

Today, MicroStep offers the full range of contemporary cutting technologies – plasma, laser, oxyfuel, waterjet – along with a great variety of supplemental solutions – equipment and software for drilling, tapping, countersinking, marking, as well as process synchronization, automated material handling and robotic solutions. We have developed different types of bevel tool stations for cutting of sheets, pipes and 3D shapes – domes, HSS and IPE profiles or elbows. One of our most important recent innovations is mScan – a dedicated point cloud processing software used in an advanced 3D laser scanning process to map true shapes of 3D objects (e.g. domes) resulting in higher precision and quality of the cutting process. Substantial development was also made in the field of fiber laser applications: the introduction of a bevel tool station, further expansion of our pipe/profile cutting options, development of a large-scale fiber laser machine MSF Max and a compact fiber laser machine MSF Compact, as well as several automated material handling and sorting options.

We also continue to grow within MicroStep Group: in addition to the modern headquarters and showroom of our German subsidiary MicroStep Europa GmbH in Bavaria, the company has opened new service centres and a new location along with a newly equipped showroom in the north-west of Germany. 2018 also saw further development of our subsidiaries in North America – MicroStep USA and MicroStep Canada, as well as expansion of our Chinese subsidiary MicroStep China.

Our goal is to provide solutions that improve everyday work in factories – to ensure higher precision, minimize downtimes, enable more convenient and efficient operation and easier maintenance. Our priority is to help our customers embrace the newest trends in manufacturing.

Alex Makuch
Managing Director
MicroStep

Eva Stejskalová
Managing Director
MicroStep

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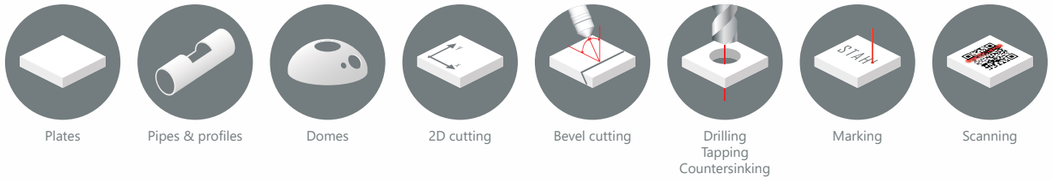
Headquarters of MicroStep in Bratislava, Slovakia is also the home of company's extensive R&D teams

MG series

Multi-functional machine for the most demanding tasks

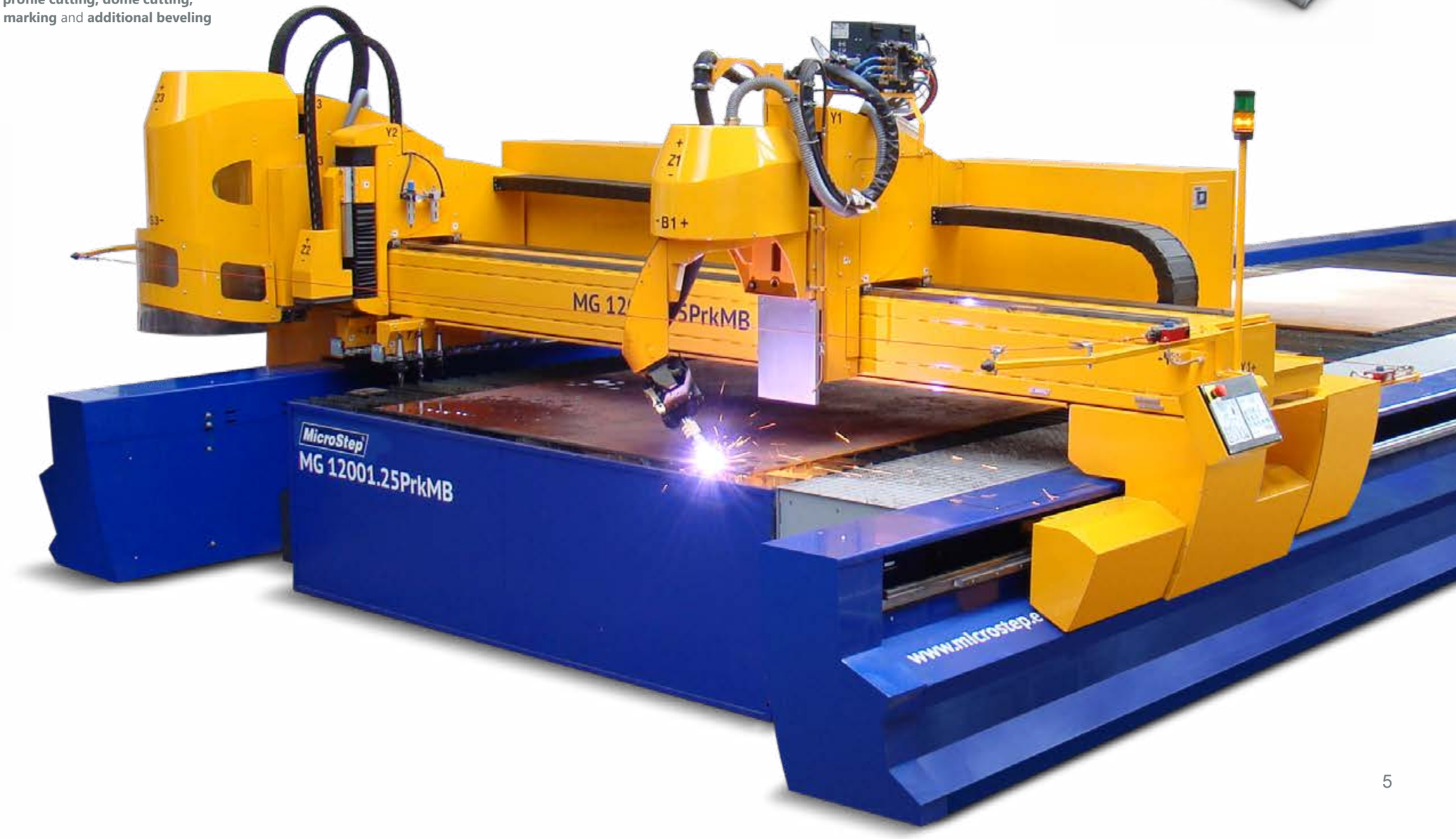


Plasma **Oxyfuel**

The **MG series** is the top performer among MicroStep's cutting machines.

It is built for heavy-duty industrial use to meet the highest demands on precision, performance and ease of operation.

MG machines are suitable for a variety of applications from **2D** and **bevel cutting** with plasma and oxyfuel, **pipe & profile cutting, dome cutting, drilling, tapping** and **countersinking** to **marking** and **additional beveling** with ABP technology.



Smooth and precise positioning

Because a robust machine construction is an important condition for excellent cutting results, the gantry supports have been extended by 35% in longitudinal direction (X axis). Thanks to the greater stability of the positioning system, the machine will operate smoothly also with heavier equipment installed.

Long-lasting,low-maintenance planetary gears

In order to take full advantage of the dynamics and performance of the AC drive system, the MG series uses long-lasting and low-maintenance planetary gears.

Stiff gantry beam design

The MG series has a rigid gantry construction. In comparison to previous generation of the machine, the stiffness of the gantry has been increased threefold. That means even less vibrations, resulting in clean and precise cuts.

Fully automatic drilling up to Ø 40 mm and tapping up to M33

The fully automatic drilling solution provides a substantial added value for your production. Before the parts are cut, precise holes, threads and countersinks can be produced within the same cutting plan. For a smooth and fast tool change, the machine can be equipped with a tool magazine for 6, 8 or 16 tools.

High reliability even in a three-shift operation

Cutting is often the first step in many production processes, so reliability of the cutting machine plays a key role. For this reason, MicroStep machines are equipped exclusively with high-quality components and designed for long-lasting operation.

Rotator technology – the new standard in bevel cutting

The endless rotator enables high-quality weld edge preparation with bevels ranging up to 52° (plasma) or 65° (oxyfuel) on sheets, pipes, profiles as well as domes. The powerful and compact design ensures high precision and dynamics that allows even complex bevel contours to be cut in a reliable manner.

Additional Beveling Process

Parts with thicknesses so big that direct beveling is not possible can still have their edges beveled thanks to MicroStep's Additional Beveling Process (ABP). V-, Y-, X- as well as K-cuts are done via scanning and cutting in a precise and cost-saving way that eliminates the necessity of secondary processing on another machine.

3D pipe & profile processing up to Ø 1,000 mm

The pipe cutting option on MicroStep machines enables weld edge preparation on pipes and hollow sections, with diameters of pipes ranging from 30 to 1,000 mm.

Dome processing

The sturdy machine frame and gantry construction of MG series enables dome processing up to Ø 4,000 mm. Different types of tool stations provide a different extent of reach over the dome surface and thus offer various dome processing options.

Plasma rotator performing bevel cutting on a water table

The powerful drilling head enables drilling, tapping, and countersinking

Pipe cutting with an MG machine

Dome processing with a multi-functional MG cutting machine

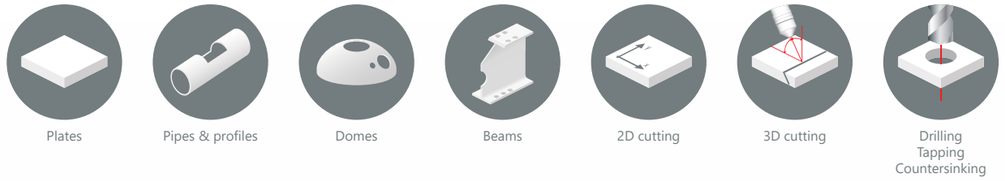
DRM series

Heavy-duty CNC machine for special requirements

Plasma

Oxyfuel

Drilling



The **DRM** is a heavy-duty cutting and drilling machine designed for a wide range of **dome, sheet** and **pipe** processing applications.

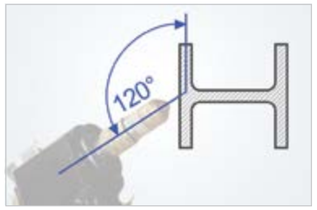
Its robust gantry enables vibration-free operation of heavy equipment such as several automatic oxyfuel triple torches, a **3D rotator** with tilting up to 120° and **Z-axis stroke 1,500 mm** or other custom equipment.

Along with the full range of sheet and pipe cutting options, DRM offers special applications on domes like trimming, separation cuts, cutting of diverse openings and weld edge preparation across the whole dome surface. An advanced 3D scanning process with MicroStep's **mScan technology** allows the machine to achieve excellent spatial precision in **3D cutting**.

A special version of the machine with a drilling table and a selection of powerful **drilling** tool stations **up to 55 kW** allows for heavy-duty drilling of construction sheets, tube sheets for heat exchangers and other demanding drilling jobs.

Flexible means of production for nearly any cutting task

- Broad range of processing possibilities – cutting of plates, pipes, profiles, beams and domes as well as several drilling and marking options
- Extremely robust and heavy gantry for toughest requirements
- Long-term reliability in single- and multi-shift operations



Fast and precise bevel cutting with plasma and oxyfuel

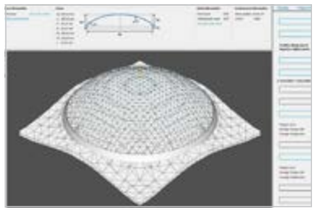
- Fully automatic and highly precise weld edge preparation with rotator and 3D rotator bevel tool stations with auto-calibration feature (ACTG®)
- Bevel cutting on sheets, pipes, profiles, beams and domes
- 3D rotator – pantograph with a tilt up to 120° for cutting of 3D objects with both plasma and oxyfuel technologies
- Additional Beveling Process (ABP) – simple and reliable subsequent weld edge preparation via a laser scanning process

Fully automatic drilling up to Ø 60 mm and tapping up to M30

DRM machines can be delivered in a special version with a drilling table and a selection of powerful drilling heads with powers up to 55 kW that allow drilling up to Ø 60 mm. The solution can optionally include a motorized brush and a sideways waste channel for removal of drilling chips. For a smooth and fast tool change, the machine can be equipped with a linear or a rotary tool magazine for up to 16 tools.

Dome processing up to dome height 1,500 mm

- Automatic processing of large tank ends with height up to 1,500 mm
- Trimming of domes, separation cuts, cutting of diverse openings and intersections
- Weld edge preparation across the whole dome surface
- Advanced dome scanning process
- Convenient creation of cutting programs from solid models in MicroStep's 3D CAM software mCAM



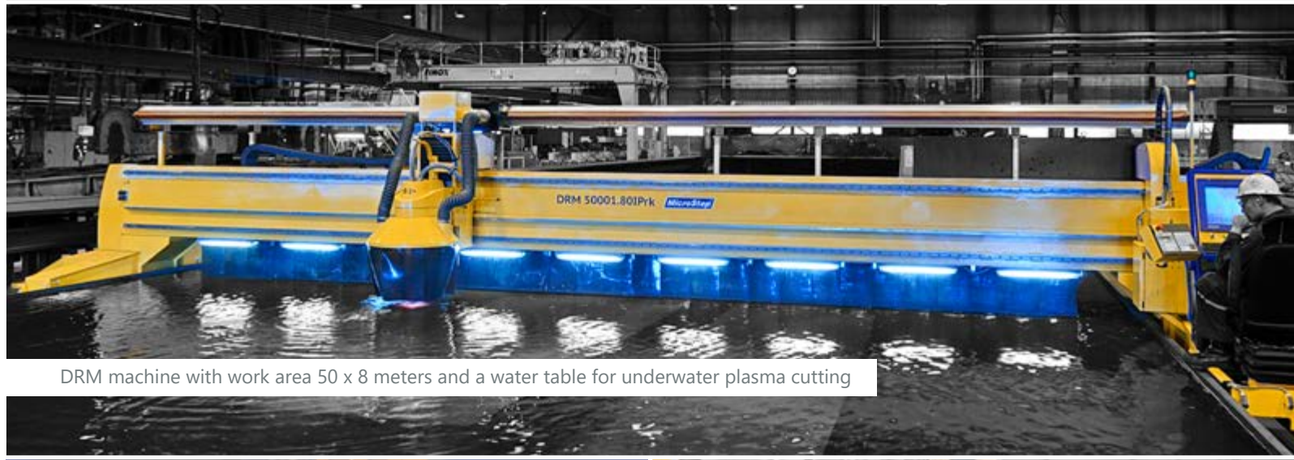
Precise dome processing with mScan

MicroStep's mScan technology for precise cutting of domes sets new standards in dome processing. A 3D laser scanning process and a point cloud processing software are used to map the true shape of a particular dome. Advanced algorithms then allow the control system to adjust the movement of tool accordingly and compensate for possible deviations of the real dome from its ideal shape. Thus, contours and openings can be cut with an outstanding precision.

3D pipe & profile processing up to Ø 1,500 mm

- Enhance your production range by adding a pipe and profile cutting option for processing of a wide range of pipe diameters including heavy pipes up to 12 t
- Convenient cutting program creation with MicroStep's 2D and 3D CAM software
- High precision and dimensional accuracy reduce post-processing costs
- If required, the pipe cutting channel can be covered with additional grates and used as extension of the cutting table including sideways fume extraction

DRM machine for cutting of tank ends up to Ø 5,500 mm



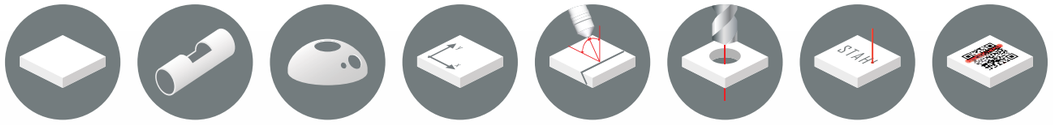
DRM machine with work area 50 x 8 meters and a water table for underwater plasma cutting

Tank end processing on DRM, with a 3D rotator with tilt angle up to 120°

DRM's automatic drilling solution with 55 kW spindle with inner cooling and a dedicated drilling table

CombiCut series

Built for tough environments



Oxyfuel

Plasma

CombiCut is a robust and high-precision CNC machine designed especially for multiple-shift high-performance plasma and oxyfuel cutting.

It allows cutting of steel up to 300 mm thick, bevel cutting with two rotators or oxyfuel triple torches, parallel cutting with up to 8 torches, drilling up to Ø 40 mm, inkjet, micro-percussion or laser marking, pipe and dome processing as well as additional beveling with ABP technology.

Robust and durable

Extreme conditions present a great challenge to any cutting machine. With CombiCut, MicroStep has come up with a solution that is suitable also for non-standard environments.

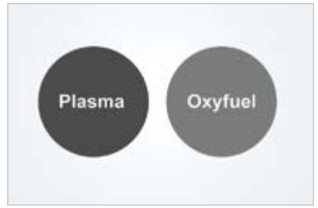
- Operating temperatures: -10° to +45°C
- Resistance to dirt, dust and humidity
- Robust machine design for longevity even in heavy-duty cutting operations

Multi-tool cutting with up to 8 oxyfuel torches

- Increase your productivity with parallel cutting operations
- Possibility of parallel bevel cutting with several rotator bevel heads
- Automatic spacing of slave tool stations (option)
- Individual selection of tool parameters to fit your requirements
- All tools controlled automatically from the iMSNC® control system

Fast and precise bevel cutting with plasma and oxyfuel

- Fully automatic and highly precise bevel cutting up to 50° (plasma rotator) or up to 65° (oxyfuel rotator)
- Bevel cutting of plates, pipes, profiles and domes
- Additional Beveling Process (ABP) – simple and reliable subsequent weld seam preparation
- Intuitive and easy programming of bevels with MicroStep's CAM solutions
- Auto-calibration of rotator via ACTG® feature for consistent quality and precision



Cutting with plasma up to 800 A and oxyfuel up to 300 mm

CombiCut machines are designed to withstand high workloads in multiple-shift operations including multi-torch parallel oxyfuel cutting of material thicknesses up to 300 mm. Intelligent temperature management keeps the system from exceeding its limits even in harsh environmental conditions and under intensive cutting load.

Fully automatic drilling up to Ø 40 mm and tapping up to M33

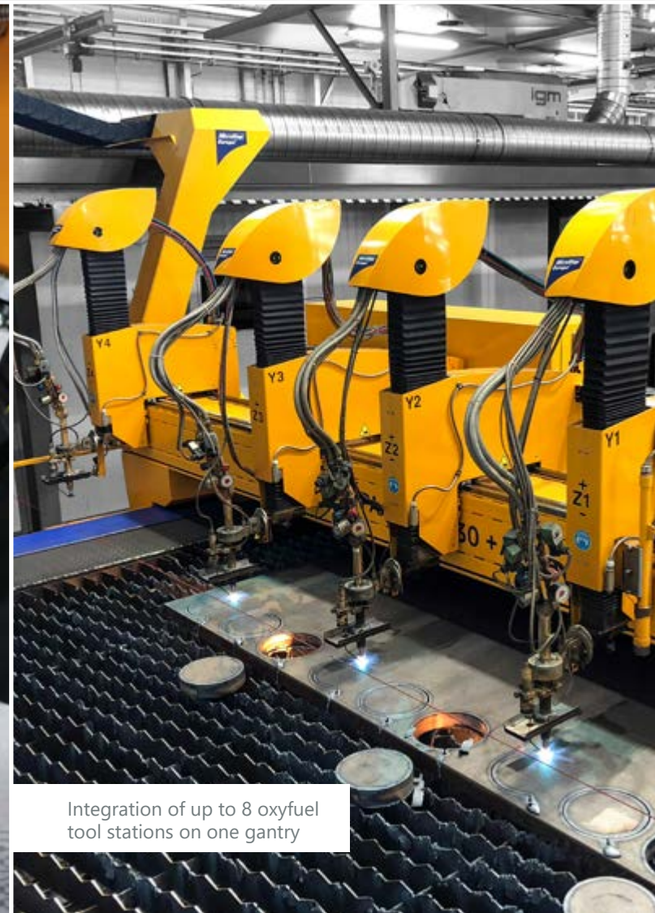
The fully automatic drilling solution provides a substantial added value for your production. Before the parts are cut, precise holes, threads and countersinks can be produced within the same cutting plan, with holes up to Ø 40 mm and threads up to M33. To enable smooth and fast tool change, the machine can be equipped with a tool magazine for 6, 8 or 16 tools.

3D pipe & profile processing up to Ø 1,000 mm

- Enhance your production range by adding pipe and profile cutting option
- Convenient cutting program creation with MicroStep's 2D and 3D CAM software
- High precision and dimensional accuracy reduce post-processing costs
- If required, the pipe cutting channel can be covered with additional grates and used as extension of the cutting table including sideways fume extraction

Automatic production line with several double-gantry CombiCut machines

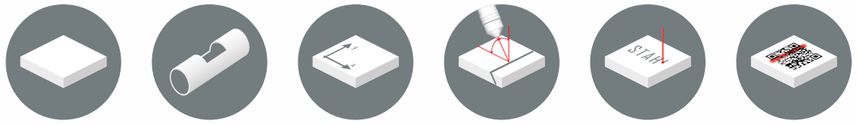
Bevel cutting with oxyfuel rotator



Integration of up to 8 oxyfuel tool stations on one gantry

MasterCut series

Versatile solution for your cutting tasks



Plasma **Oxyfuel**

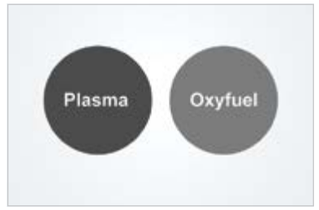
The **MasterCut series** is a versatile high-precision CNC cutting machine which can be applied throughout the industry reaching from small workshops to big factories.

The application range of the standard version with rails in the X direction dedicated to fully automated oxyfuel cutting or cutting with conventional plasma can be enhanced to a variety of high-precision plasma cutting applications including pipe, profile or elbow cutting and marking.

Adding a MasterCut plasma bevel head will allow the machine to perform a great portion of common bevel cutting jobs with bevel angles up to 50°. By default, the beveling system comes equipped with the patented autocalibration system ACTG® that significantly improves precision and dimensional accuracy of the cutting process, eliminates tedious mechanical adjustments, and substantially increases productivity of the machine.

Flexible means of production for nearly any cutting task

- Broad range of processing possibilities – cutting of plates, pipes & profiles with plasma or oxyfuel as well as several marking options
- Generous gantry clearance for processing of higher parts
- Rigid steel gantry to ensure high precision and dimensional accuracy
- Long-term reliability in single- and multi-shift operation



Cutting with plasma up to 440 A and oxyfuel up to 200 mm

The machine offers excellent cutting results by utilizing both high-definition and conventional plasma sources, with an advanced height control based on proprietary adaptive algorithms backed by the ball screw actuated Z axis. A combination of plasma and oxyfuel cutting technologies along with extensive work area configurations make MasterCut a highly versatile production tool with an optimal price/performance ratio.

Bevel cutting up to 50° with the plasma bevel head for MasterCut

- V- and X-cuts as well as complex Y- or K-cuts up to 50°
- Fully-automatic compensation of potential mechanical imprecisions of the bevel head's geometry in the range of hundredths of a mm thanks to MicroStep's patented ACTG® technology
- Automatic compensation of bevel angle with the Adaptive Bevel Compensation feature (ABC)

Multi-tool operation with up to 6 oxyfuel torches

- Increase your productivity with parallel cutting operations
- Automatic spacing of slave tool stations (option)
- Individual selection of tool parameters to fit your requirements
- All tools controlled automatically from the iMSNC® control system

Pipe & profile cutting up to Ø 1,000 mm

- Enhance your production range by adding pipe and profile cutting option
- Convenient cutting program creation with MicroStep's 2D and 3D CAM software
- High precision and dimensional accuracy reduce post-processing costs
- If required, the pipe cutting channel can be covered with additional grates and used as extension of the cutting table including sideways fume extraction

Enhanced machine frame delivers even smoother operation

Because a robust machine construction is an important condition for excellent cutting results, in the latest generation of MasterCut the gantry supports have been extended by more than 60% in longitudinal direction (X axis), along with reinforcement of the gantry beam and redesigning of the drive system. Thanks to these measures, the positioning system is even more stable and lets the machine operate smoothly also with heavier equipment installed.

MasterCut with linear guidelines in the X-axis and a channel for pipe processing

Configuration of MasterCut machine with a bevel head, an oxyfuel torch and a punch marker

This pipe cutting device can process pipes up to Ø 300 mm

MasterCut Compact series

Compact, versatile and dynamic

Plasma

Oxyfuel

MasterCut Compact is a dynamic, high precision CNC cutting machine suitable for a variety of plasma and oxyfuel cutting jobs. Thanks to its sophisticated design and high-quality components, the machine smoothly delivers latest features of plasma technology for a decent price – true contours, small holes, sharp corners and efficient operation.

As a fully compact machine it is moveable within the workshop while delivery in a pre-assembled state significantly shortens its start-up time. Work area sizes of MasterCut Compact reach from 1,500 x 1,500 mm to 6,000 x 2,000 mm.

As a bonus, a **bevel cutting** option allows to perform a great portion of common bevel cutting jobs.

7 work area sizes available

In order to optimize your production, you can choose from seven standard work area sizes.

Compact design

Space is costly so we designed MasterCut Compact as a compact stand-alone solution. Less space needed for control consoles, cabling and media supplies gives you more space for your work.

Excellent cutting quality

Better cutting quality means less post-processing, which helps you to save manufacturing costs. A proper technology is available for each cutting task: in addition to plasma, MasterCut Compact can be equipped also with an oxyfuel cutting head.

Cost-saving operation and maintenance

Cost savings are key – in comparison with laser systems, modern plasma cutting machines impress with their high cutting speeds and excellent cutting quality at substantially lower costs.

Bevel cutting up to 50° with the plasma bevel head for MasterCut Compact

- V- and X-cuts as well as complex Y- or K-cuts
- Fully-automatic compensation of potential mechanical imprecisions of the bevel head's geometry in the range of hundredths of a mm thanks to MicroStep's patented ACTG® technology
- Automatic compensation of bevel angle with the Adaptive Bevel Compensation feature (ABC)

High precision

The machine maintains an uncompromising quality of components – linear guidelines in all axes, helical gears, sturdy gantries and monitoring of all electronic components ensure a seamless operation.

MasterCut Compact machine designed for small and medium-sized businesses

A compact design that provides an uncompromising performance

Active anti-collision protection for high safety standards

NEW

MSF series

Powerful solution for fiber laser cutting

Laser

MicroStep's precise **laser all-rounder MSF** allows for multi-functional processing of materials: 2D and 3D cutting of sheets with bevels up to 45°, drilling, tapping, countersinking as well as marking. The machine can be equipped with a turret drilling head for 6 tools that allows **drilling up to Ø 20 mm** and **tapping up to M16**. Optionally, the cutting area can be extended by a pipe & profile cutting zone for processing of **pipes up to Ø 500 mm** and a length up to 12 m, or **hollow sections** up to the size 350 x 350 mm.
Thanks to the patented ACTG® technology, MSF machines deliver consistent, highly precise **bevel cutting** results in a reliable process with minimum maintenance downtimes. Another innovative technology – ABP – offers the option of adding bevels to already cut parts, for example to thicker workpieces that were cut with plasma in advance. By default, MSF machines are equipped with automatic shuttle tables, whereas **automatic material handling** and sorting options for sheets, pipes and profiles are likewise available.

MSF machines are designed for production of highly accurate parts at high cutting speeds, with surprisingly low maintenance and operational costs. The outstanding dynamics of MSF is achieved by a low-seated gantry, digital AC drives and precise planetary gears. The machines are equipped with state-of-the-art fiber laser sources of powers up to 10 kW.

Robust, dynamic, and long-lasting machine design

- Gantries with extremely high torsion resistance enable high traverse speeds of up to 180 m/min
- Bellows on all axes protect the guidelines from contamination
- Automatic lubrication of linear guidelines and carriages with auto-control of its frequency and duration
- Possibility of parallel cutting with two cutting heads
- Smart Z Movement (SZM) feature for smoother and faster operation

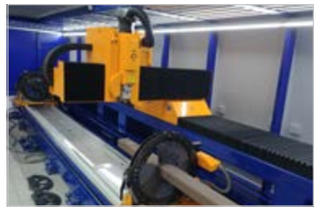
Extensive automation features and options

- Shuttle table with fast table changeover reduces costly downtimes
- Automatic focus position and diameter adjustment according to the cut material
- Automatic cutting height sensor calibration and nozzle cleaning cycle
- Automatic nozzle change option
- Possibility of complete automation of loading and unloading including part sorting

High economic efficiency

- 2/3 lower power consumption and higher cutting speeds (compared to CO_2 laser of the same power)
- The complete machine is nearly maintenance-free
- No laser gases necessary
- Smaller footprint in comparison to CO_2 lasers
- No warm-up time, after switching on immediately ready to work

A versatile CNC fiber laser cutting machine for sheets and pipes with laser power up to 10 kW



Pipe and profile cutting

- Various pipe and profile cutting options in combination with sheet processing or as a standalone pipe cutting solution
- Cutting of pipes up to Ø 500 mm and a length up to 12 m, and hollow sections up to the size 350 x 350 mm
- Motorized and synchronized pipe support positioned automatically according to the cutting program
- Automatic pipe loading, feeding and unloading system as option
- Convenient cutting program creation in MicroStep's 3D CAM software mCAM

Laser bevel head for bevel cuts up to 45°

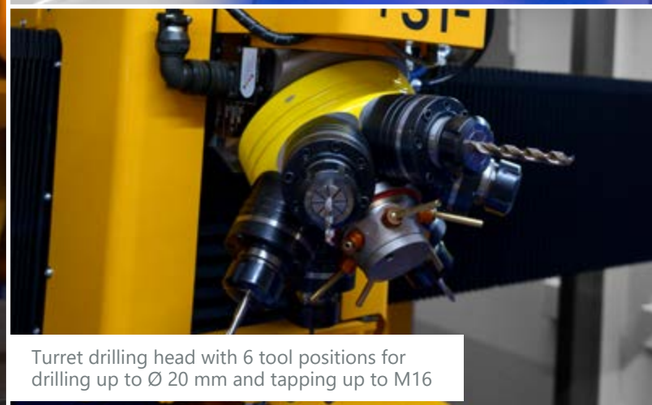
- V- and X-bevels as well as complex Y- or K-bevels up to 45° with micro joints
- Auto-calibration of tool geometry (ACTG®) feature ensures high precision and reliability of bevel cutting with minimum downtimes for maintenance
- Additional Beveling Process (ABP) – simple and reliable subsequent weld edge preparation via a laser scanning process
- Auto-calibrated height sensor for correct height control in all cutting angles

Fully automatic drilling up to Ø 20 mm and tapping up to M16

- Fully automatic drilling solution for laser machines
- Drilling up to Ø 20 mm, tapping up to M16 and countersinking
- Turret head with tool magazine for 6 tools
- Auto-calibration of drill bits (ACDB) feature
- Pneumatic retainer close to the drill tool ensures accuracy of the drilling process

Laser bevel head allows 3D processing of sheets and pipes

Automatic loading, feeding and unloading option for pipes and profiles



Turret drilling head with 6 tool positions for drilling up to Ø 20 mm and tapping up to M16

NEW

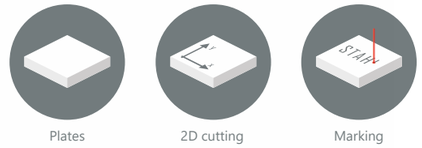
MSF Compact series

Compact, fast, precise

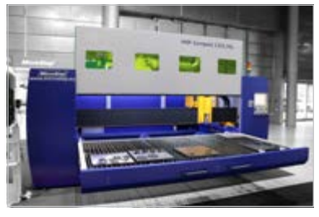
Laser

The **MSF Compact** combines precise 2D laser cutting with a compact design. This space-saving version of MicroStep's fiber laser machine is available in **work areas** of **1,000 x 2,000 mm**, **1,250 x 2,500 mm** and **1,500 x 3,000 mm** and is particularly attractive thanks to its small footprint in combination with the genuinely high cutting quality. A manually extractable cutting table enables easy and straightforward loading.

MSF Compact machines are available with state-of-the-art fiber laser sources with a power range **1 – 4 kW**. The machines are perfect for production of highly accurate parts at high cutting speeds, with a small footprint and low maintenance and operational costs. Their high dynamics is achieved by a low-seated gantry, digital AC drives and precise planetary gears.



Your solution for fast and precise cutting



- A powerful, compact laser cutting machine for cutting a wide variety of materials
- High precision and accuracy of parts and contours
- Excellent dynamics thanks to a robust machine design, low-seated gantry, digital AC drives and precise planetary gears

Robust, dynamic, and long-lasting machine design

- Gantries with extremely high torsion resistance enable high traverse speeds
- Compact, manually extractable cutting table for convenient loading of sheets up to 15 mm thick
- Bellows on all axes protect the guidelines from contamination (optional)

Excellent cutting quality

The compact version of MSF achieves excellent cutting quality on a variety of cut parts thanks to high-quality of used components. An advanced sensor system inside the cutting head ensures reliable performance in single- as well as multi-shift operations.

High economic efficiency

- 2/3 lower power consumption and higher cutting speeds (compared to CO_2 laser of the same power)
- The complete machine is nearly maintenance-free
- No laser gases necessary
- Extremely small footprint
- No warm-up time, after switching on immediately ready to work
- Fast commissioning thanks to its compact design (Plug & Produce)

Compact machine with manual loading and unloading

The MSF Compact is available with work areas of 1,000 x 2,000 mm, 1,250 x 2,500 mm and 1,500 x 3,000 mm and is particularly attractive thanks to its small footprint in combination with the genuinely high cutting quality. A manually extractable cutting table enables easy and straightforward loading.

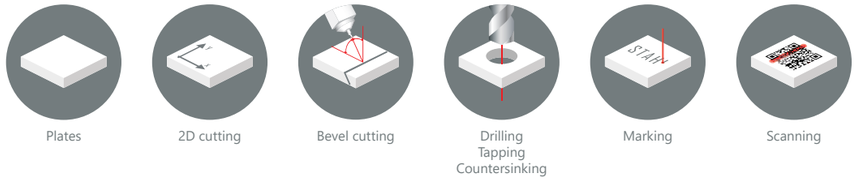
High-quality components

MicroStep relies exclusively on high-quality components from established manufacturers to ensure long-lasting and accurate results. Thus, laser sources from IPG Photonics with a power of up to 4 kW are available. For high cutting speeds, an automatic laser cutting head from the German manufacturer Thermacut is used.

NEW

MSF Max series

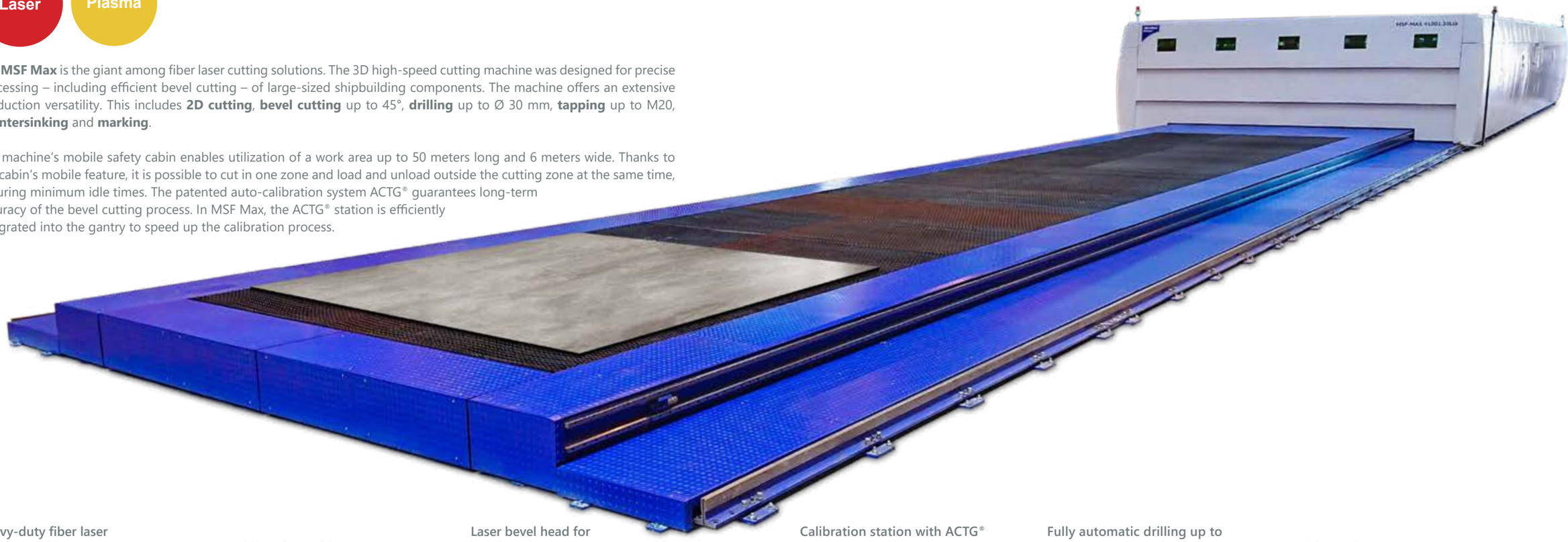
3D fiber laser machine for large-scale applications



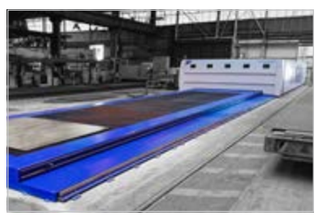
Laser Plasma

The **MSF Max** is the giant among fiber laser cutting solutions. The 3D high-speed cutting machine was designed for precise processing – including efficient bevel cutting – of large-sized shipbuilding components. The machine offers an extensive production versatility. This includes **2D cutting**, **bevel cutting** up to 45°, **drilling** up to Ø 30 mm, **tapping** up to M20, **countersinking** and **marking**.

The machine's mobile safety cabin enables utilization of a work area up to 50 meters long and 6 meters wide. Thanks to the cabin's mobile feature, it is possible to cut in one zone and load and unload outside the cutting zone at the same time, ensuring minimum idle times. The patented auto-calibration system ACTG® guarantees long-term accuracy of the bevel cutting process. In MSF Max, the ACTG® station is efficiently integrated into the gantry to speed up the calibration process.



Heavy-duty fiber laser cutting machine

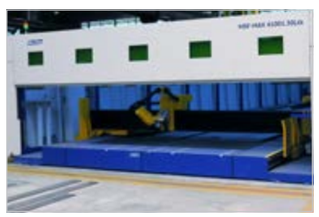


The MSF Max, with its maximum work length of up to 50,000 mm and width of up to 6,000 mm, is an excellent laser cutting solution for large-scale applications. The fiber laser cutting machine developed originally for the shipbuilding industry is designed for reliable and precise processing of large components. The design makes MSF Max a heavy-duty fiber laser cutting machine for complex and extraordinary cutting tasks.

Mobile safety cabin

In conventional laser cutting machines, the entire machine is enclosed in a fixed housing. By contrast, MSF Max, to accommodate its unconventional work areas, uses a mobile safety cabin shielding the fiber laser technology during the cutting process. The mobile cabin moves on its own guidelines and can reach the entire work area of the machine. This enables safe operation along with easy control of the machine.

Laser bevel head for bevel cutting up to 45°



- V- and X-cuts as well as complex Y- or K-cuts up to 45° with micro joints
- Additional Beveling Process (ABP) – simple and reliable subsequent weld edge preparation via a laser scanning process
- Easy programming thanks to intuitive software tools
- Auto-calibrated height sensor for correct height control in all cutting angles

Calibration station with ACTG® unit integrated into the gantry

In case MSF Max is equipped with a laser bevel head, the system comes with the ACTG® unit and auto-calibration feature by default. Unlike in other MicroStep machines, the unit is integrated directly into the gantry in a combined calibration station that is ejected during the calibration process. The station contains also a pad for calibration of the capacitive height sensor in the cutting head and a nozzle cleaning system consisting of a camera and a wiping brush.

Fully automatic drilling up to Ø 30 mm and tapping up to M20

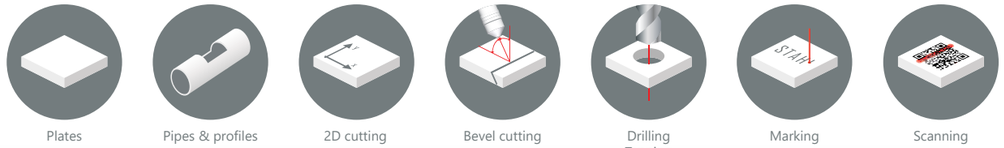
- Fully automatic drilling solution for the MSF Max machine
- Drilling up to Ø 30 mm, tapping up to M20 and countersinking
- Automatic tool exchange with a tool magazine for up to 8 tools mounted on the gantry
- Auto-calibration of drill bits (ACDB) feature
- Pneumatic retainer close to the drill tool ensures accuracy of the drilling process

High-quality components

MicroStep uses laser sources from IPG Photonics, the leading manufacturer of high-power fiber laser systems. Sources with a power of up to 10 kW are available with MSF Max. High cutting speeds and long-lasting operation are ensured by the automatic laser cutting head BIMO-FSC MZ from the German manufacturer HighYAG.

AquaCut series

Multi-functional waterjet cutting machine



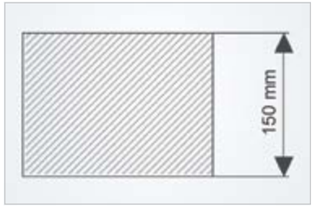
Waterjet Plasma

The **AquaCut** is a highly precise CNC waterjet cutting machine designed to process a wide variety of materials including those that cannot be subject to thermal or mechanical stresses.

Pure water or abrasive cutting can be applied, among others, to metal, stone, marble, armored glass, ceramics, plastics, wood, thick corrugated cardboard, foam materials and sandwich materials.

The machine can be equipped with a 5-axis waterjet rotator with ACTG® for **bevel cutting**, as well as combined with plasma, **pipe** and **profile** cutting or **tapping**. Other features include Additional Beveling Process (ABP) and **taper compensation** (ABC).

Fine contours and highly precise cuts up to 150 mm



- No thermal stress on the cut part
- Cutting of the finest contours
- Precision to the degree of hundredths of a millimeter
- Cutting of all materials (stone, steel, glass, rubber, wood, sandwich materials)
- High-pressure technology up to 6,200 bar

Adaptive Bevel Compensation (ABC)

In order to meet the requirements for high precision and/or perpendicularity of the cut parts, MicroStep's Adaptive Bevel Compensation (ABC) technology enables taper compensation in a range of ± 7°. The technology adjusts the bevel angles with speed to compensate the natural stream lag and taper of a water jet. The system also allows custom adjustment of the compensation values.

Bevel cutting up to 45° with ACTG®

- Fully automatic and highly precise bevel cutting up to 45°
- Auto-calibration of tool geometry (ACTG®) feature ensures high precision and reliability of bevel cutting with minimum downtimes for maintenance
- Smooth, yet dynamic operation thanks to AC drives
- Intuitive and simple programming of bevels including the ABP technology

Sludge removal conveyor

The cutting tank can be optionally equipped with an automatic cleaning system, either with a conveyor belt that carries the sludge to a sludge container at the end of the cutting table or with an automatic system for filtering out the abrasive.

Durable high-precision components

Rustproof chrome plating of linear guidelines helps to protect them against wear caused by abrasive and corrosion. In addition, bellows on all axes seal the guidelines against dust and humidity, substantially increasing their lifespan.

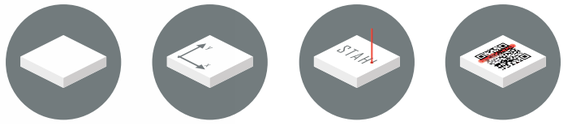
Optional water table designs

Depending on your requirements, different cutting table designs are available for the AquaCut series:

- Galvanized or stainless steel tanks
- Separate water tanks for pipe and profile cutting
- Custom designs for special requirements

WaterCut series

Compact & powerful

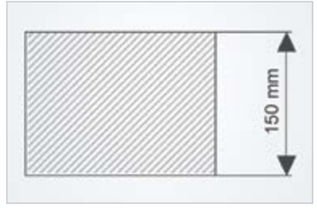


Waterjet Plasma

The **WaterCut series** offers highly precise and reliable **waterjet cutting** machines designed for 2D waterjet cutting or a combination of waterjet and plasma. Besides a single tool station, WaterCut can be equipped with a multi-tool station with outer span 1200 mm, carrying up to **4 water jets on a single Z axis**, or a small drilling unit for **piercing of sandwich materials**.

The machine is equipped with MicroStep's efficient and user-friendly CNC control system iMSNC®, which, by default, supports 5 waterjet cut quality settings for different edge finishing. It can be chosen between the highest speed or the best edge quality whereby other customization of tool parameters is also available: for example, adjustment of cutting speed in the corners of parts. Thus, the machine is perfect for achieving an optimal balance between quality, performance and cutting costs.

Fine contours and highly precise cuts up to 150 mm

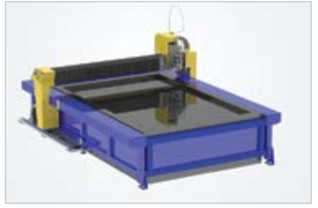


- No thermal stress on the cut part
- Cutting of the finest contours
- Precision to the degree of hundredths of a millimeter
- Cutting of all materials (stone, steel, glass, rubber, wood, sandwich materials)
- High-pressure technology up to 6,200 bar

Durable high-precision components

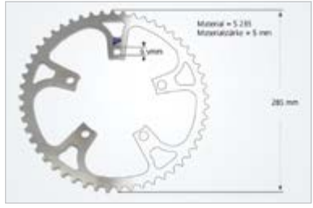
Rustproof chrome plating of linear guidelines helps to protect them against wear caused by abrasive and corrosion. In addition, bellows on all axes seal the guidelines against dust and humidity, substantially increasing their lifespan.

Versatile configuration options



WaterCut can be equipped with two 2D cutting heads and water level regulation for efficient parallel cutting. Optionally, the machine can be fitted with a multi-tool station with outer span 1200 mm, carrying up to 4 water jets on a single Z axis, or a small drilling unit for piercing of sandwich materials.

Intuitive and easy operation



So that you can fully concentrate on your production, our innovative software solutions help you intuitively to transform drawings and cutting plans into finished parts.

PipeCut series

Weld edge preparation on pipes and profiles

Plasma **Oxyfuel**

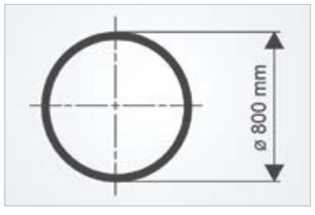
The **PipeCut series** offers a wide range of pipe and profile cutting possibilities for various industrial applications in offshore, lifting and agricultural equipment, pipelines, power plant and steel constructions or shipbuilding.

Modular design of the machine allows to meet unique pipe fabrication needs and thus become a valid part of your production facility.

PipeCut machines enable a wide range of pipe-based applications including **trimming**, **cutting** of various openings for multiple **pipe** and **profile** intersections or connections, weld edge preparation as well as **marking**.

The machine can be supplied as a fully automated workplace with **automatic loading**, feeding and unloading of pipes and profiles. Optionally, PipeCut can also be fitted with an additional cutting area for smaller domes.

3D pipe and profile cutting up to Ø 800 mm



PipeCut's cantilever design with open loading area enables processing of pipes and profiles up to Ø 800 mm.

- ***3D plasma*** for fast and efficient cutting
- ***3D oxyfuel*** for thick-walled workpieces

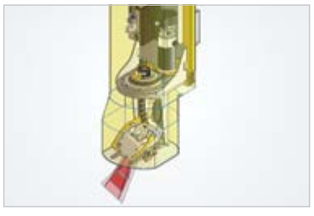
Efficient suction through chuck and the overhead extraction system

MicroStep's proven suction design for pipe cutting includes direct fume extraction from inside of the pipe through chuck as well as suction from the overhead cover around the cutting head.

Advantages:

- Reduced dust pollution of workpieces
- Prolonged lifetime of components
- Minimized fume exposure of the workshop staff

Laser scanner for measuring of profile position



For cutting of hollow sections, the PipeCut machine can be equipped with a laser scanner that will measure the deviation of profile's position in the place of cutting to ensure precise positions of cut-outs and openings.

ElbowCut: Weld edge preparation on pipe elbows

ElbowCut, a special version of the PipeCut machine, was designed for trimming of pipe elbows with preparation of trimmed edges for subsequent welding. The machine can process elbows in the range Ø 80 – 400 mm while ensuring high environmental safety and suction efficiency thanks to housing in a noise reducing cabin*.

*cabin not included in photo

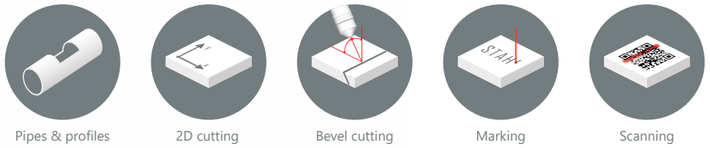
Automatic loading, feeding and unloading

The PipeCut series can be fully automated via handling systems and Machine Production Management (MPM) software, including:

- Loading of pipes and profiles
- Detection of shape deviations via a laser scanner (applicable for hollow sections)
- Loading and execution of cutting programs
- Unloading of finished parts
- Updating of warehouse database, exchanging information with ERP system

CPCut series

Solutions for large pipes and profiles



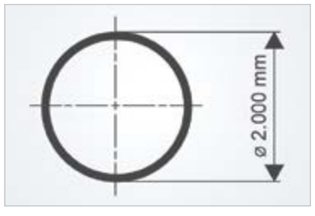
Plasma Oxyfuel

The **CPCut series** offers robust pipe and profile cutting machines designed for processing of a great range of pipe diameters and lengths.

The machine's modular design enables a wide range of pipe-based applications including **trimming**, **cutting** of various openings for multiple **pipe** and **profile** intersections or connections, weld edge preparation as well as pipe **marking**.

The application field of CPCut is in tank, pipeline and power plant constructions.

3D pipe and profile cutting up to Ø 2,000 mm



CPCut's cantilever design with open loading area and a powerful chuck enables clamping and processing of pipes and profiles up to Ø 2,000 mm.

- ***3D plasma*** for fast and efficient cutting
- ***3D oxyfuel*** for thick-walled workpieces

Pipes and profiles up to 12 t

Depending on the type of pipe cutting device and pipe supports, the CPCut series can cut round pipes as well as hollow profiles with different cross-sections in the range Ø 100 – 2000 mm up to a weight of 12 tons. Modular design of the machine provides possibilities of different machine configurations as well as further customized expansion of the system.

Easy loading and unloading

Thanks to the open machine area with low-positioned guidelines in the longitudinal axis and the mobile cantilever gantry construction, the gantry can be parked aside to ensure convenient and safe loading and unloading even for large pipes and profiles.

Powerful suction through chuck and the overhead extraction system

MicroStep's proven suction design for pipe cutting includes direct fume extraction from inside of the pipe through chuck as well as suction from the overhead cover around the cutting head.

Advantages:

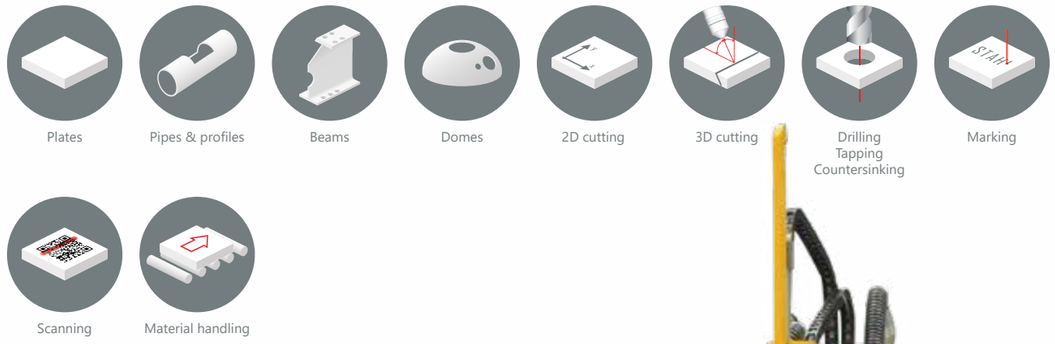
- Reduced dust pollution of workpieces
- Prolonged lifetime of components
- Minimized fume exposure of the workshop staff

Operator terminal on the gantry

A control unit with touchscreen mounted on the gantry provides all positioning and technology control functions and thus ensures convenient operation of the machine along its whole length.

ProfileCut series

Designed for efficient beam, pipe and dome processing



Plasma **Oxyfuel**

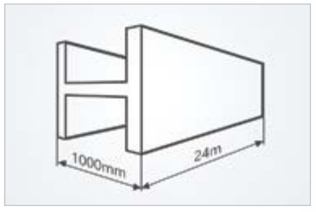
The **ProfileCut series** is dedicated for production of **steel structures**. It provides efficient and cost-effective cutting and marking of commonly used types of beams and profiles.

Besides optional **tube** and **plate** cutting areas, the machine has a dedicated area for cutting of **beams** such as **I, H, U** or **L**. To enable precise processing of beams in the required spots, ProfileCut machines are equipped with a laser scanner that measures the exact shape of beam in the place of cutting. That allows the control system to adjust the movement of tool according to the true shape of the particular beam.

In addition, ProfileCut machines offer **automation possibilities** with automatic loading, feeding, sorting and unloading of beams via feeding and conveyor systems and a dedicated production management software.

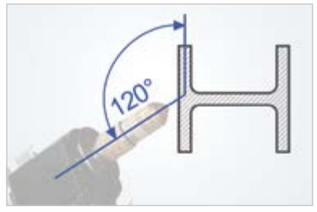
Extension of the machine with a **dome** cutting area for processing of dished ends turns ProfileCut into a true all-rounder in processing of 3D materials.

Processing of beams and profiles up to HEB 1000 and length 24 m NEW



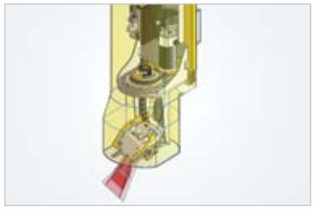
Thanks to its generous work areas, the machine can process beams up to HEB 1000 and a length of 24,000 mm. In addition to the common beam types such as I, H, U or L, round pipes, hollow sections and even domes and plates can be cut as well.

Great production flexibility thanks to the 120° bevel cutting head



MicroStep's 3D rotator with a torch tilt of up to 120° provides full beam processing functionality including dividing of beams and cutting of commonly required contours and openings. The advanced auto-calibration feature (ACTG®) guarantees long-term accuracy, easy setup and minimum maintenance downtimes of the bevel cutting equipment.

Laser scanner for measuring of the true beam shape



ProfileCut machines are equipped with a 3D laser scanner that measures the exact shape of beam in the place of cutting. Advanced algorithms then allow the control system to adjust the movement of tool accordingly and compensate for possible inaccuracies of the particular beam.

Convenient loading of profiles NEW

Thanks to the large, open loading area, even heavy beams can be easily and safely slid over the supporting rollers into the work zone. This saves time as the beams do not have to be clamped or otherwise prepared for processing.

Extensive configuration possibilities

ProfileCut is one of MicroStep's most versatile machines. Besides processing of beams and tubes, the machine can be extended by a plate or dome cutting area and by integrating a variety of technologies such as triple-torch oxy-fuel cutting, drilling, tapping, countersinking or marking – turning the machine into a universal production tool for structural steel jobs.

Beam processing automation

The machine can be fully automated via handling systems and Machine Production Management (MPM) software, including:

- Loading of beams
- Detection of shape deviations via a laser scanner
- Loading and execution of cutting programs
- Unloading of finished parts
- Updating of warehouse database, exchanging information with ERP system

DS series

Plate processing line for structural steel applications

Drilling **Plasma** **Oxyfuel**

The automated **plate processing line DS** was designed for high-efficiency drilling and cutting with the possibilities of automatic plate feeding and automatic part sorting on output. The machine is dedicated to heavy-duty structural steel applications such as production of high-precision **fittings, gussets** and **end plates**.

The **DS series** was designed for a high level of **automation** within the factory workflow as a time- and cost-effective production solution for certain types of flanged parts.

A special version of the machine – **DS-B** – is dedicated to **automatic dual drilling**, **tapping** and **marking** of **hollow profiles** with square or rectangular cross-sections. The work area of the machine consists of a rotary drilling support with two turret drilling heads, each having 6 tool positions. The DS-B machine can process hollow sections up to 300 x 300 mm with a length of up to 12 m.

Automated processing of flat materials for steel structures

The DS series offers a variety of automated processing options for flat materials. Besides drilling, 2D and bevel cutting for weld edge preparation up to 50°, oxyfuel cutting, tapping, countersinking as well as scanning and marking are possible. The standard work area size is up to 6,000 x 2,000 mm.

DS-B: Automated drilling and marking of hollow profiles

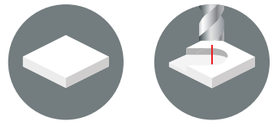
The DS-B series, a special version of the DS machine, was designed for automatic dual drilling, tapping and micro-percussion marking of hollow profiles with square or rectangular cross-sections. The work area of the machine consists of a rotary drilling support with two turret heads for drilling up to Ø 24 mm and tapping up to M12, each having 6 tool positions. The machine can process hollow sections up to 300 x 300 mm with a length of up to 12 m. Material loading, feeding and unloading are fully automated.

High degree of automation

As a time- and cost-efficient production solution, the DS series has a high degree of automation. Loading of plates into the cutting zone, unloading of processed parts as well as separation of residual material are fully automated. Moreover, the machine is operated by MicroStep's production management software MPM that can be interconnected with local ERP system.

MicroMill series

Premium CNC routing solution



Routing

The **MicroMill series** is designed for CNC **routing** of mild metals, plastics and wood by means of high-revolution spindles. Mechanical construction makes the machine suitable for shape machining of flat parts including parts with bigger dimensions.

Utilizing MicroMill's rugged frame, dual-side driven gantry and linear guideline system, the machine proves its excellent dynamic properties in various shaping jobs. The material can be fixed on the table with mechanical clamps, or conveniently locked in position on MDF pad through a **vacuum clamping** system.

Fine contour routing and shaping for a variety of materials

- Routing of softer materials such as mild metals, plastics, Teflon or wood
- Suitable for shape machining of flat parts including parts with bigger dimensions
- Precision to the degree of hundredths of a millimeter
- Automatic tool exchange with a tool magazine for 8 tools

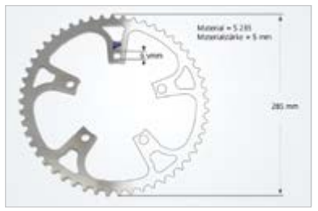
Excellent dynamics with poitioning speeds up to 56 m/min

Robust machine frame coupled with a powerful drive system of digital AC drives, planetary gears and high-precision linear guidelines in all axes result in excellent dynamical properties and high positioning speeds. The machine can be equipped with a selection of high-revolution spindles up to 24,000 rpm.

Material clamping options for convenient usage

The material can be either fixed on the table with mechanical clamps, or, optionally, locked in position on MDF pad through a vacuum clamping system. Optimal solution is using of one vacuum pump for each 2 m2 of clamping area. Efficient and safe overhead extraction of dust and small chips from routing is offered as a recommended option.

Intuitive and easy operation



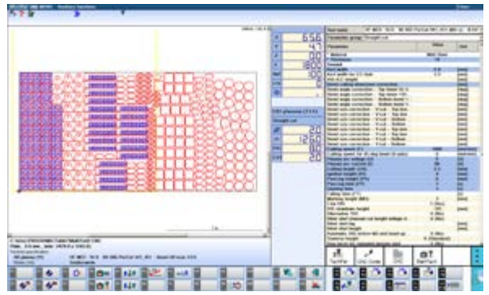
So that you can fully concentrate on your production, our innovative software solutions help you intuitively to transform drawings and cutting plans into finished parts.

iMSNC®

Intelligent solution for multi-technology work

iMSNC® from MicroStep is one of the most advanced control systems for CNC cutting machines. It was developed to easily, reliably, and efficiently turn cutting plans into finished parts with the help of a clear and modern user interface. The system's hardware consists of a stand-alone control console with a TFT touchscreen and a control panel with an LCD display mounted on the gantry. In order to achieve maximum utilization and flexibility of our machines, the ergonomic control console offers the opportunity to nest new cutting programs and generate new CNC codes during an ongoing cutting process. As the iMSNC® control system and all CAM software solutions come from our company, the software with its versatile modules can be individually customized for your production. Parameter databases for individual technologies enable consistently high quality under various circumstances. iMSNC® comes with multiple efficient evaluation tools for production process optimization. These provide you with the much-needed overview of current cutting orders, cutting times, cost calculations and machine utilization in day-to-day production.

- 17'' touchscreen (optionally 24'')
- Efficient management of tool data
- Very short programming times
- Fast data transfer
- Flexible and easy to use
- Advanced cutting simulation for more work safety
- Convenient contextual help via pop-up bubbles



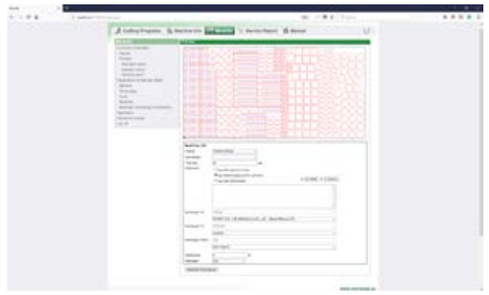
Transparent and easy-to-use user interface

Besides standard features (test run, mirroring, scaling, rotation of cutting plans and many more), the iMSNC® control system incorporates advanced functions such as preparation of cutting plans during machine operation, jog mode, reverse motion, global marking, parametrical dynamic piercing, kerf compensation, automatic plate alignment, restart of cutting from point of interruption after voltage breakdown, virtual tool magazine – a customized database of parameters for all technologies.

The optional 24" monitor displays all data for preparation of cutting in a single screen and thus provides an even clearer overview of the cutting process. Additionally, its configurable right part contains shortcuts to up to 5 custom applications in each screen.

Monitoring of consumables

For all businesses, continuous cost monitoring is one of the most important tools. iMSNC® offers useful commercial support with monitoring of consumables. At the touch of a button you can evaluate the states of your consumables and the probable number of remaining piercing cycles.



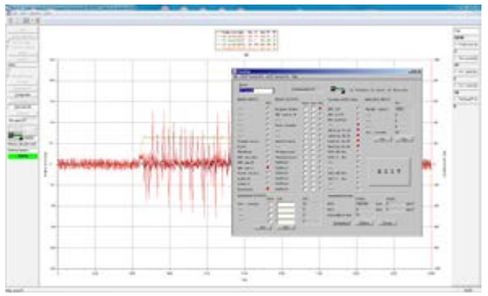
Monitoring and evaluation of production

iMSNC® includes a novel web-based interface for accessing each machine from the company intranet via a web browser. Each machine has its own home page which serves as a gateway for intranet applications.

Management of Cutting Programs (MCP) – remote management of cutting programs allows to define priorities and relations between cutting programs and materials, and to distribute the cutting tasks to several machines

EkoInfo – evaluation of machine operation costs for a particular cutting program

Machine Info – monitoring of machine and operator activities that enables to assign performance information to work shifts and to create specific technological records



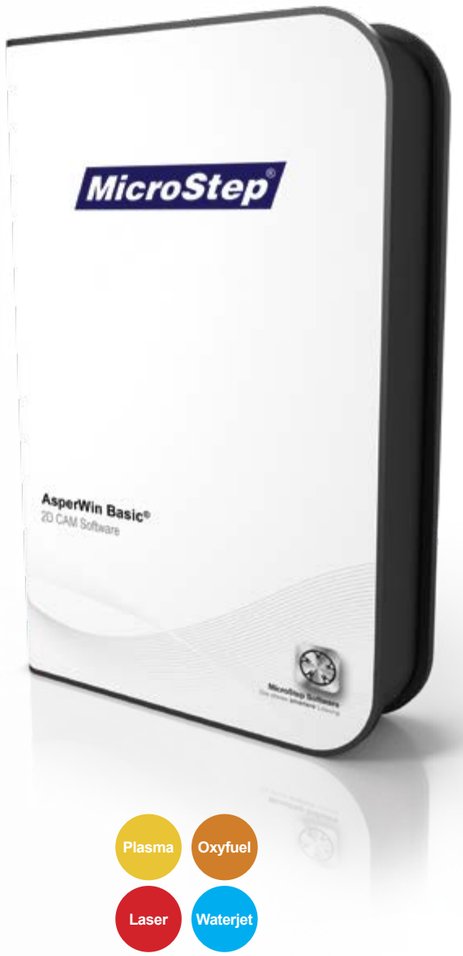
Remote diagnostics

With iMSNC® and numerous remote maintenance modules, MicroStep offers the best foundation for fast and competent help via remote dial-in. Nearly all electronic components can be evaluated and diagnosed using MicroStep's software. Thus, in more than 90 percent of all cases, machine downtime can be remedied quickly and easily without the need of a service technician on site.

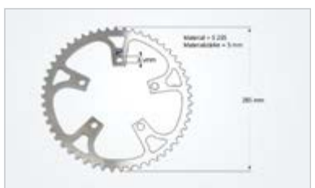
AsperWin® Basic

2D CAM software for intuitive and efficient manufacturing

MicroStep's 2D CAM software AsperWin® is the ideal tool for easy and fast creation of CNC programs for various cutting and supplementary technologies. Even in its basic version, AsperWin® offers powerful functionalities for 2D cutting that can be further extended by a variety of specialized modules (e.g. bevel cutting module, pipe cutting module, multi-torch cutting module and more) and even customized to fit a customer's special requirements.
The **intuitive structure** and **sophisticated features** make AsperWin® a modern and powerful tool for CNC programming.



Easy & fast creation of CNC programs



To allow you to fully concentrate on your products, our innovative software solutions help you to intuitively translate drawings and cutting plans into finished components.

Import all common CAD formats

With AsperWin, you can load your parts in various formats (DXF, ESSI, CNC, DC2, IGES...) from the network or USB storage and quickly convert them into a CNC program.

Numerous macro libraries

Choose from a large number of standardized components and adapt them to your requirements with just a few clicks, saving time on recurring parts.

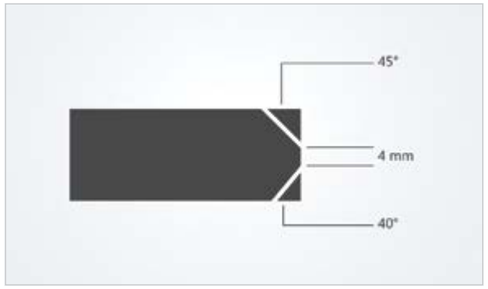
Use the full potential of your MicroStep cutting system

In addition to the countless possibilities and tools which AsperWin® offers in its basic version, the software can be expanded with additional modules.

- Pipe & profile processing (2D and 3D)
- Dome processing
- Weld seam preparation
- Multi-torch operation
- Macro library for HVAC and pressure vessel construction

All add-ons can be quickly and comfortably activated directly on your machine

Easy programming of bevel cuts



With just a few simple steps, you can add **weld seam preparations** to your cutting plans. Just choose the bevel type, angle, and land height.

Multi-technology work processes

AsperWin® is designed to take full advantage of all technologies on your MicroStep machine. For example, multiple technologies can be used together in one process.

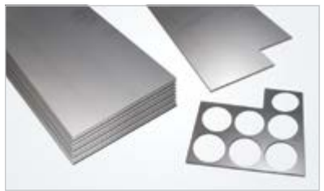
HeatControl® for lower thermal impact

To avoid local overheating of the plate during cutting, the HeatControl® functionality ensures dynamic distribution of the cutting path over the entire plate. This minimizes local heat deformation and protects consumables.

SpeedControl® for higher precision of corners, arcs, and holes

The SpeedControl® functionality regulates the cutting speed on all MicroStep machines to optimize the cutting quality in tight corners and arcs.

Plate and residue management

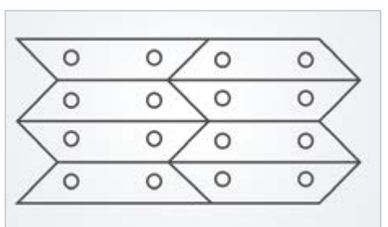


Make the most of your plates by including residual material in your virtual material stock and using it later for other cutting programs.

Semi-automatic nesting

The semi-automatic nesting function of AsperWin® works places parts on a plate as economically as possible. Cutting plans can be added to or changed with just a few clicks, always with optimized space utilization.

Common-cut contours

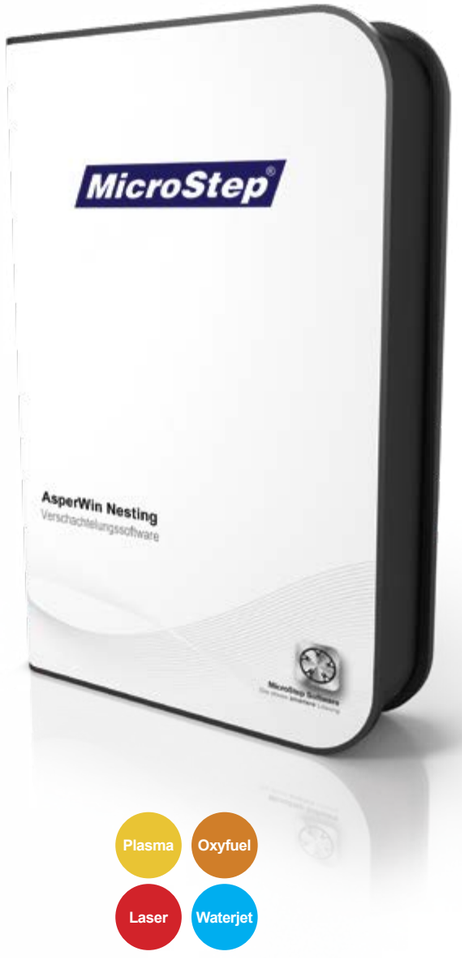


If desired, the components can be nested in a way that allows some of their contours to be cut at once, minimizing the number of lead-ins and lead-outs. This has a positive influence on consumable life and saves cutting time.

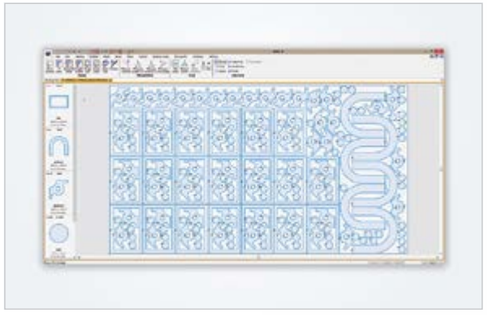
AsperWin® Nesting

The tool for efficient automatic nesting

Easily and intuitively nest component drawings into efficient cutting plans. Follow your own requirements: whether you need to prevent material overheating or just to save as much material as possible, *AsperWin® Nesting makes your work easy!*



Optimal material utilization



AsperWin® Nesting fully automatically nests the contours to be cut to achieve optimal material utilization. You choose according which criteria to nest in the first place: maximum material utilization, the number of piercing cycles, minimum thermal impact or others.

Nesting by material type and thickness

AsperWin Nesting® takes into account the type and thickness of the plate to ensure that components are always cut from the right material.

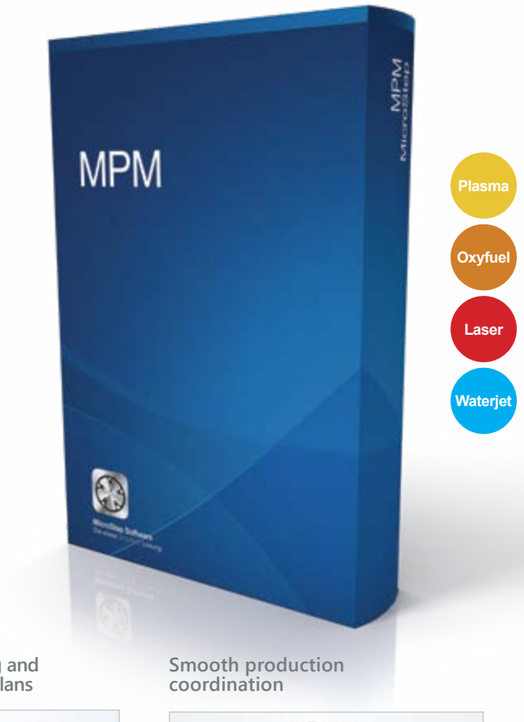
Sorting by orders

In conjunction with the MicroStep software MPM, individual parts can be sorted according to various criteria, such as the order number, customer number, material thickness, or material type, allowing them to be more easily managed. Plate and residual material management is also included.

Machine Production Management – MPM

100 percent control and efficiency in all processes

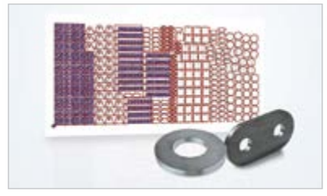
MPM is the foundation of automated and efficient cutting operations. In combination with the CAM software AsperWin® or mCAM it can automatically nest complex cutting orders and projects on the right material and distribute the cutting plans to the right cutting machines for processing. Combined with automated material storage and material manipulation, MPM can even take care of automatic material handling. *In short, MPM makes planning and coordination of your cutting operations easier and reduces your costs.*



Administration of orders and connection to stock

MPM simplifies management and processing of cutting orders. Even complex cutting orders or projects can be processed automatically based on priority, material type and material thickness. If there is a connection to your stock management, MPM will flexibly adjust the processing of orders according to material availability. If there is not enough material available for a particular order, the system will notify the responsible person to order the required amount.

Fully automatic nesting and processing of cutting plans



The individual components of a cutting order are automatically nested on the proper material by MPM in combination with the CAM software AsperWin or mCAM. Depending on priority and available material, orders with more pressing deadlines are processed first. The finished cutting plans are then automatically cut on a suitable machine.

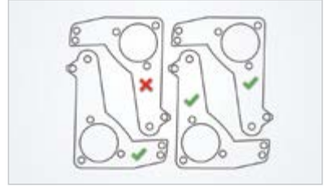
Smooth production coordination

MPM oversees all connected cutting systems and distributes cutting plans according to capacity and suitability of individual machines.

Order tracking in real time

For more transparency in your production planning, MPM lets you see the current degree of completion for each cutting order or project.

Feedback on finished and defective parts



Defective components can be returned to the job list after the end of the cutting process with just a few clicks. Quality controller checks the cutting results and has the option to mark any imperfect part as defective. MPM can then automatically add the defective components into the job list and mark them as high-priority to cut them at the nearest opportunity.

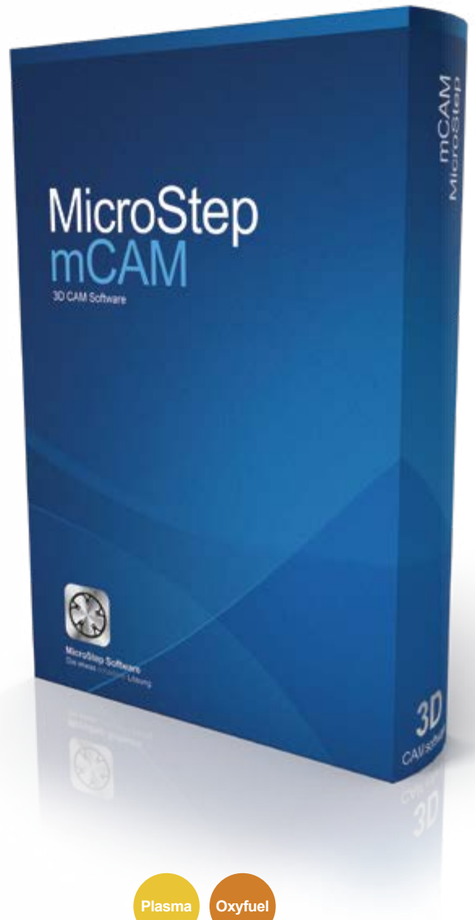
Calculation and evaluation

MPM can evaluate all relevant production data, such as material utilization, cutting times and system efficiency, on demand. These data can be compiled into custom reports according to your needs.

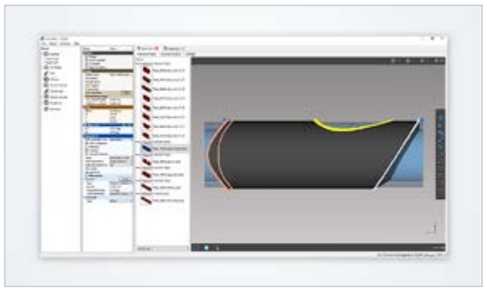
mCAM

Powerful 3D CAM software for complex cutting programs

mCAM is an efficient tool for automated 3D cutting of pipes, profiles, beams, domes and flat plates with cutting machines equipped with various technologies (plasma, oxyfuel, waterjet and laser). mCAM can directly import 3D models (created in SolidWorks, Inventor, etc.), organize them into individual libraries and process them. The software analyzes the shape of an entire model and automatically detects cutting paths. Thanks to the integrated nesting process, the individual components can then be efficiently nested on material templates.

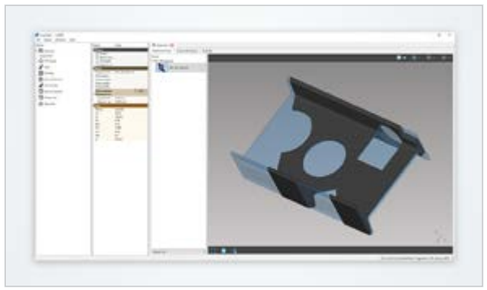


Intuitive and easy to use



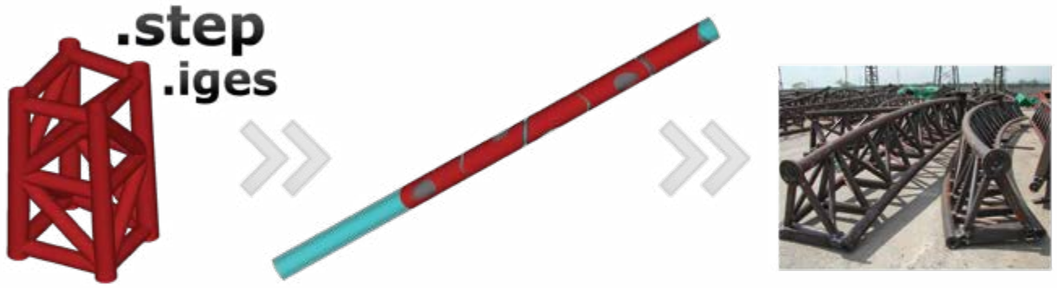
Whole assemblies and individual components can be easily and intuitively imported as a 3D model, nested and cut.

Processing of pipes, profiles, domes and flat plates



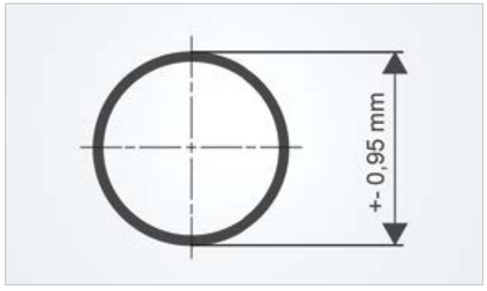
mCAM supports automatic detection of both simple and complex 3D shapes: flat plates, circular pipes and segments, rectangular profiles, elliptical, torispherical and semi-elliptical domes, cones, arched, dished, flat and inverted domes, sphere-caps, extruded and bent U- and L-beams and H- and I-beams with parallel and non-parallel flanges.

Automatic nesting of complex 3D models



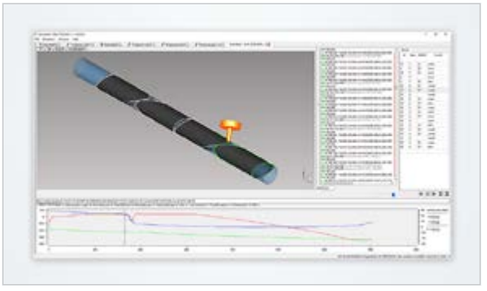
1. Import of a 3D model into mCAM
2. Automatic detection of cutting paths
3. The model is split into individual components
4. Automatic nesting on a material template
5. Complete compensation of cutting kerfs
6. Simulation of the cutting process for increased process reliability
7. Cutting of nested components

Detection of geometric deviations



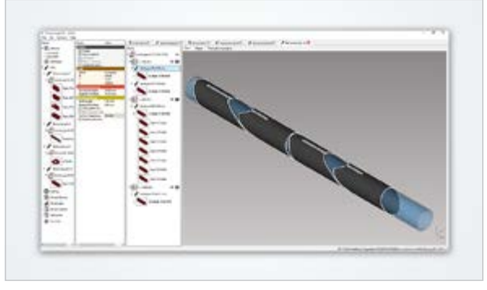
iMSNC® measures the material for any production-related imprecisions and compensates for them directly during component processing.

Simulation of the cutting process



With cutting simulation in mCAM, cutting plans can be checked for possible errors before the actual cutting, saving time and money through less waste and generally ensuring higher process reliability.

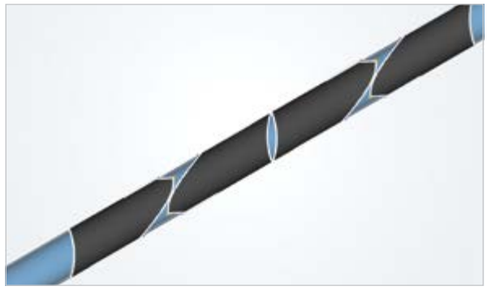
Automatic processing of cutting tasks



mCAM is able to automatically nest the individual components of a cutting job on the right material in your stock.

To use the full potential of mCAM's order management, it can be connected to the MicroStep Production Management MPM or to an existing ERP system.

Automatic placement of micro-joints



mCAM can add micro-joints to the finished cutting plan to minimize the risk of thermal deformation and to keep the individual components together right up to the end.

MicroStep – State-of-the-art solutions for processing of plates, pipes, profiles, beams and domes

The company MicroStep was established in 1991 by members of the Department of Automation and Regulation, Faculty of Electrical Engineering and Information Technology, Slovak University of Technology in Bratislava, Slovakia with the aim to develop and deliver microprocessor-based control technology to various branches of industry. Over the years, the company has become one of the leading suppliers of cutting equipment that supplied more than 2,500 cutting machines worldwide in cooperation with strong channel partners spread over 54 countries.

MicroStep is offering the full range of contemporary cutting technologies – plasma, laser, oxyfuel and waterjet – along with a great variety of supplemental equipment and software for drilling, tapping, countersinking, marking, process synchronization, automated material handling and robotic solutions. As a producer of not only the machines themselves but also of control systems and CAM software the company delivers solutions that fit custom demands and are future-proof with respect to machine extensions in size and additional technologies. MicroStep's machines can process different types of materials including plates, pipes, profiles, beams, domes and elbows while implementing advanced automation processes. All of MicroStep's machines are controlled by iMSNC®, a multi-tasking PC-based control system developed and produced in-house. The focus of the company are hi-tech machines that accommodate industry's latest trends – delivery of fully automatic workplaces, which integrate different cutting/drilling/marking technologies in combination with automatic loading and unloading systems, following demands for higher level of machinery automation and interconnection of control systems, CAM software and ERP systems.

MicroStep's rapid growth in its 25+ years' history resulted in founding of several subsidiaries, most notable of which are MicroStep Europa GmbH in Germany, MicroStep USA, MicroStep Canada and MicroStep China. Together with subsidiaries, the company has a total of over 500 employees, out of which more than 10 % are working in the field of integrated development of mechanical and electronic nodes of CNC machines and control system software. The company operates two production sites in Slovakia in the towns of Partizánske and Hriňová. In addition to its own R&D base, MicroStep works closely with departments of the Slovak University of Technology in Bratislava and the Institute of Materials & Machine Mechanics of the Slovak Academy of Sciences on utilization of latest achievements in design and control of machinery.

Thanks to its innovation driven production, MicroStep has become a valued partner for industry´s leading manufacturers: Hypertherm, Kjellberg, IPG, HIGHYAG, Precitec, KMT, BFT, GCE, Harris in the field of cutting technology; Bosch Rexroth, THK, HIWIN in the field of linear motion components; Festo, Asco Joucomatic in the field of pneumatic components; Donaldson and Teka in the field of filtration systems, Panasonic in the field of motor controls and ABB, Fanuc and Mitsubishi in the field of robotics.

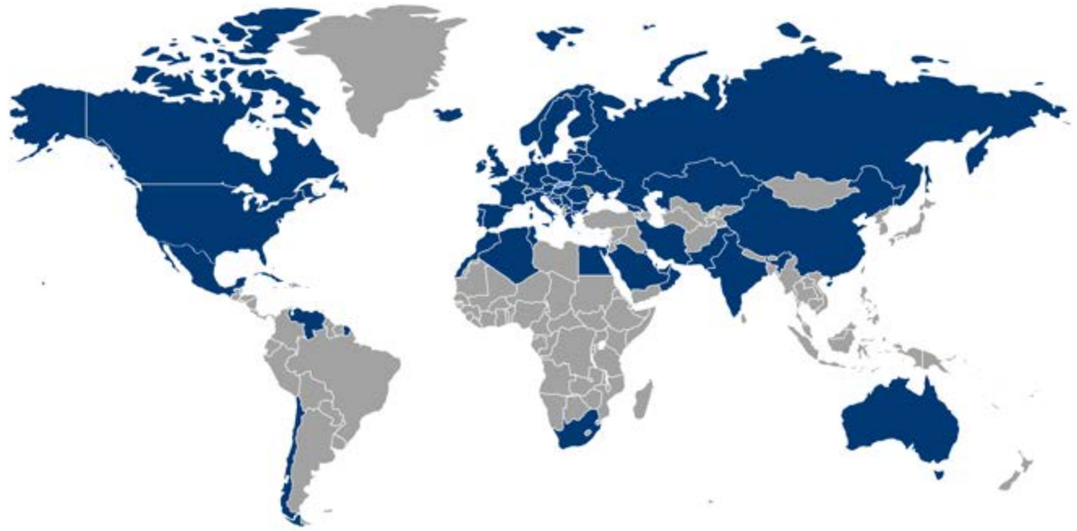
Multi-functional CNC cutting machines

PLASMA – LASER – OXYFUEL – WATERJET – DRILLING – TAPPING – COUNTERSINKING – MARKING

- Processing of plates, pipes, profiles, beams and domes
- Combinations of technologies on one machine
- A wide range of accessories
- Material handling & material flow automation
- CAPP applications for production management
- 2D & 3D CAM software
- Robotic solutions

The MicroStep World

Present in more than 50 countries worldwide



MicroStep | Your Partner for Cutting and Automation

Through a network of authorized representatives, MicroStep is present in 54 countries. More than 90% of our production is destined for export. Apart from our home market – Slovakia – and almost all European countries, MicroStep cutting machines also operate in the USA, Canada, China, Russia, South Africa, the Middle East, India and Australia. In the field of plasma cutting, the company belongs among the world's largest producers.

Contact the MicroStep representative in your area to discover the variety of MicroStep's products and features!

Our customers | Strong partnerships at a global level

The technology of MicroStep and our long-term experience in the cutting and automation fields have helped us to build a user base spread across many different industries, from schools and small workshops to big multinational enterprises. The know-how of our employees helped realize more than 2,500 cutting machines worldwide. We appreciate the trust of each of our customers, among others:

MicroStep spol. s r.o.

Alex Makuch
Managing Director
MicroStep

„Our success would not be possible without strong partnerships with our suppliers and, most importantly, without the profound commercial and technical abilities of our sales partners. Together we make it happen."

MicroStep®

Your Partner for Cutting and Automation

Complex & Multi-functional

There is hardly any other CNC system with such a variety of technologies provided by a single machine for such a variety of materials: sheets, pipes, profiles, beams as well as domes. MicroStep is offering such versatile and efficient solutions by nature.

See the cut sample above – bevel cutting of contours and openings, drilling, tapping, countersinking, punch marking and contour marking, all delivered in a fully automatic mode by our multi-functional plasma all-rounder MG.

Contact the MicroStep representative in your area!

For more information visit: www.microstep.eu/dealers

Selected References

Information on all MicroStep cutting systems can be found in our current reference brochure.

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