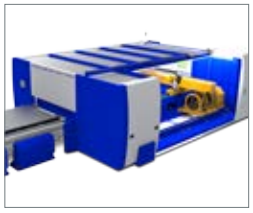
MicroStep®

Your Partner for Cutting and Automation

Multi-functional

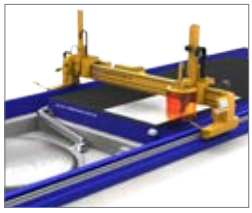
MG: One machine for every task

All-rounder: Next level utilization of fiber laser



Bevel cutting, drilling and tapping with a single laser machine? MSF offers an impressive combination of technologies for plate, pipe and profile processing.

The Expert: Revolution in dome processing



High precision cutting of large-format sheets and domes with one machine? The dome cutting expert DRM is here!

The Original: Compact and powerful

Compact, powerful and quickly assembled? MasterCut Compact impresses its users! Also available with plasma bevel or oxyfuel heads.

MG Line
The complex all-rounder

MicroStep´s MG line is the ultimate cutting all-rounder. This top-class CNC cutting machine is suitable for long-term industrial use while meeting the highest requirements on precision, performance and ease of operation. No matter if it is plates, pipes, profiles or domes, the multi-functional production tool delivers high-end output of an unmatched versatility.

In terms of multi-functionality, the MG product line from MicroStep is pioneering the industry. Versatile processing options for a wide range of materials – these are the requirements that MicroStep has been addressing for years. MG has it all – great dynamics of a state-of-the-art high-end system designed for high-speed cutting and positioning, robust gantry construction with AC drives and high-quality components that ensure long-lasting and stable 3-shift operations. The modular concept with separate cutting zones for sheets, pipes/profiles and domes that are all accessible with a variety of tool stations mounted on a single gantry allows you to carry out cutting operations on differently shaped materials. Bevel cutting of contours and holes with plasma and oxyfuel up to 50°, drilling, tapping and countersinking, punch marking, marking with inkjet, laser, plasma or MicroPunch technologies – all of these operations can be performed subsequently in a fully automatic mode within a single cutting plan. And even more: MG machines provide unique features such as the patented ACTG® (auto-calibration of bevel tool geometry), ABP (additional bevelling process), ABC (adaptive bevel compensation) and optimized drilling applications up to Ø 40 mm and M33 with automatic tool exchange and automatic measurement of drill tools.

MG
Video presentation:

www.microstep.eu/video/

Top Features

Bevel cutting up to 50° on sheets, pipes, profiles & domes

MicroStep´s 5-axis R5 rotator with endless rotation and the innovative ITH torch holder enables bevel cutting up to 50° in different materials – V, X and complex Y or K-scuts are achievable with ease. The auto-calibration function of ACTG® ensures long-term stability and accuracy of the bevel cutting process.

Drilling, tapping & countersinking

Accurate drilling, tapping and countersinking, automatic tool change and automatic tool calibration – with drilling up to Ø 40 mm and tapping up to M33 in combination with plasma cutting and marking, the complex drilling equipment from MicroStep provides a highly efficient solution.

3D dome cutting

The robust construction of the MG with solid gantry allows dome processing of up to Ø 6,000 mm. Depending on the cutting head (2D or 3D) and correspondingly dimensioned Z-axis stroke, bevel cutting in different areas of the dome surface is possible. All cutting tasks can be programmed easily and intuitively with MicroStep´s 3D CAM software mCAM.

3D pipe & profile cutting

In combination with a 3D head and dedicated CAM software, the various pipe cutting devices from MicroStep provide full range of pipe based applications for pipe diameters ranging from Ø 30 –1,000 mm. With a special adapter is is also possible to cut elbows of an angle up to 90°.

+ all ***features*** can be found on our website

Walter Eberle
Production planning
Doppelmayr Seilbahnen GmbH

Doppelmayr®

„We are confident that with this new acquisition we will make a leap forward in terms of efficient production. The quality of bevel cuts is so high that we should not have any degradation issues during automated robot welding. We are primarily concerned with further automation of our production."

MSF Line
The precise all-rounder

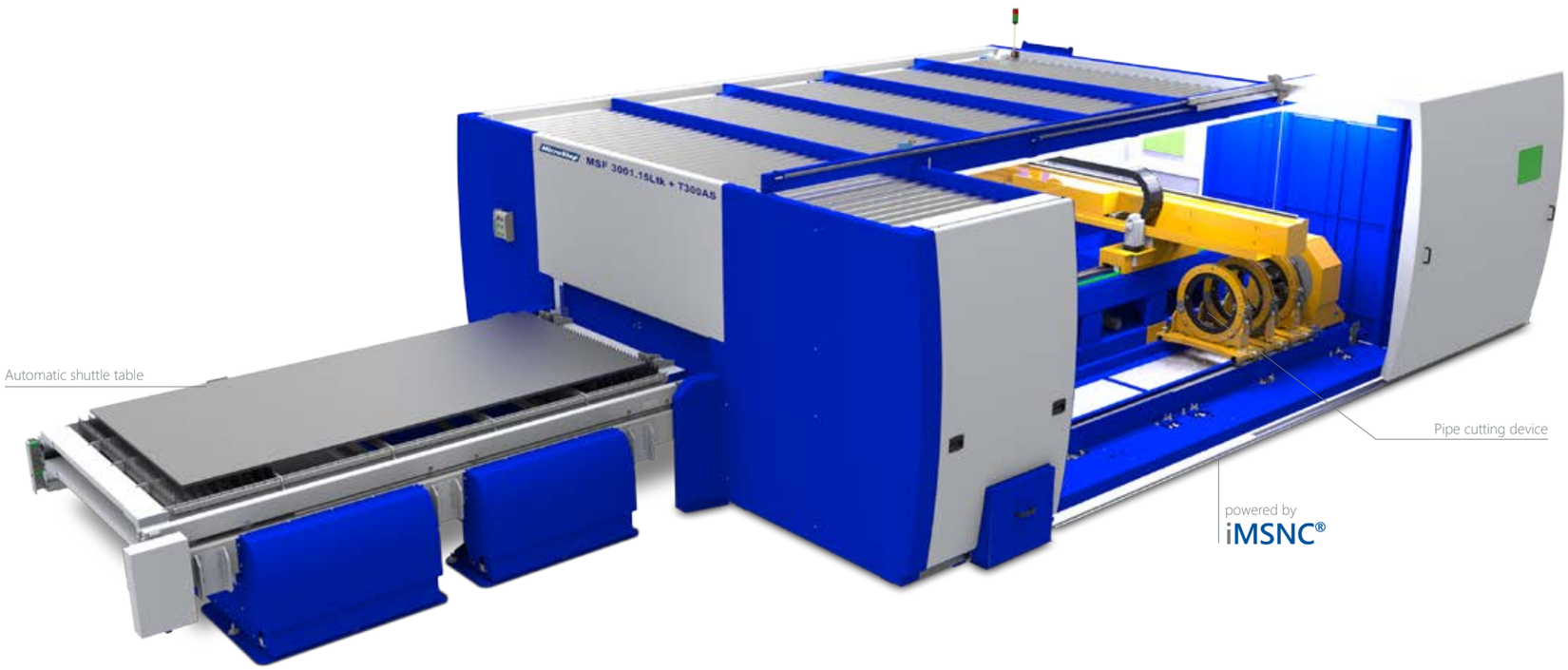
A revolutionary concept in laser cutting machinery: with the new generation of MSF, high-speed, precision and automation now blend into a unique laser cutting machine. MicroStep developed a system for multi-functional 3D cutting of sheet metal, pipes and profiles - all with one machine and, furthermore, with the possibility of a fully automatic material handling.

Industrial manufacturing is transforming nowadays towards higher resource efficiency, greater versatility and maximum production output at optimum quality levels. MicroStep has always been developing its CNC cutting systems according to these requirements. A recent example is the modular MSF line of cutting machines that allow processing of different types of materials, with various technologies applied within a single cutting plan – a concept firstly introduced and meanwhile established in MicroStep´s multi-functional plasma cutting systems.

This idea is now implemented in the new MSF Fiber Laser Tube system. A standardized pipe cutting zone with motorized supporting rollers along the automatic shuttle table of the machine and a sliding side door of the protective cabin ensure convenient processing of pipes and profiles of different sizes. Fiber laser sources of up to 8 kW of the YLS series from the renowned manufacturer IPG deliver the necessary power for production of high-precision parts at high cutting speeds while the maintenance and operating costs are kept reasonably low. In addition to 2D cutting, a combination of technologies is available: weld seam preparation with a 3D laser bevel head allows bevel cutting up to 45°, a turret drilling head with automatic tool exchange provides drilling, tapping and countersinking capabilities. The patented calibration unit ACTG® as well as automatic nozzle cleaning and automatic calibration of height sensor in the cutting head greatly contribute to precision and long-term stability of the cutting process. Loading and unloading automation via MicroStep´s automatic handling systems for sheets as well as for pipes and profiles is a valued option.

MSF
Video presentation

www.microstep.eu/video/



Top Features

Bevel cutting of sheets, pipes & profiles

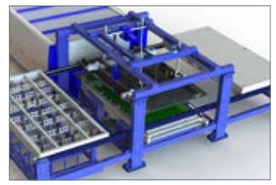
With a tilt up to 45°, the laser bevel head provides advanced 3D cutting of sheets as well as pipes and profiles. The integrated capacitive height control ensures accurate nozzle position above the cut material for all tilting angles and thus ensures optimal cutting quality. Simple V- and X-cuts as well as complex Y- or K-cuts are achievable with ease.

3D bevel cutting of pipes and profiles

The rotary pipe cutting device for MSF allows pipe and profile cutting up to the length of 12 m and diameter Ø 300 mm (Ø 500 mm)* including bevel cuts for weld edge preparation.

Drilling, tapping and countersinking

In addition to cutting, the MSF system can be enhanced by a „Multi-holder" turret drill head with automatic tool exchange with 6 tool positions for drilling up to Ø 20 mm, countersinking and tapping up to M16.



Automated material handling

The portfolio of MicroStep also includes in-house developed transport and manipulation systems for automation of material handling of sheet metal as well as automatic feeding of pipes and profiles. The automatic loading/unloading system MSLoad provides automated handling of sheets and cut parts. It can be further extended by a storage tower and an automatic part sorting system.

+ all ***features*** can be found on our website

Marco Rytz
CEO
Rytz AG

rytz industries

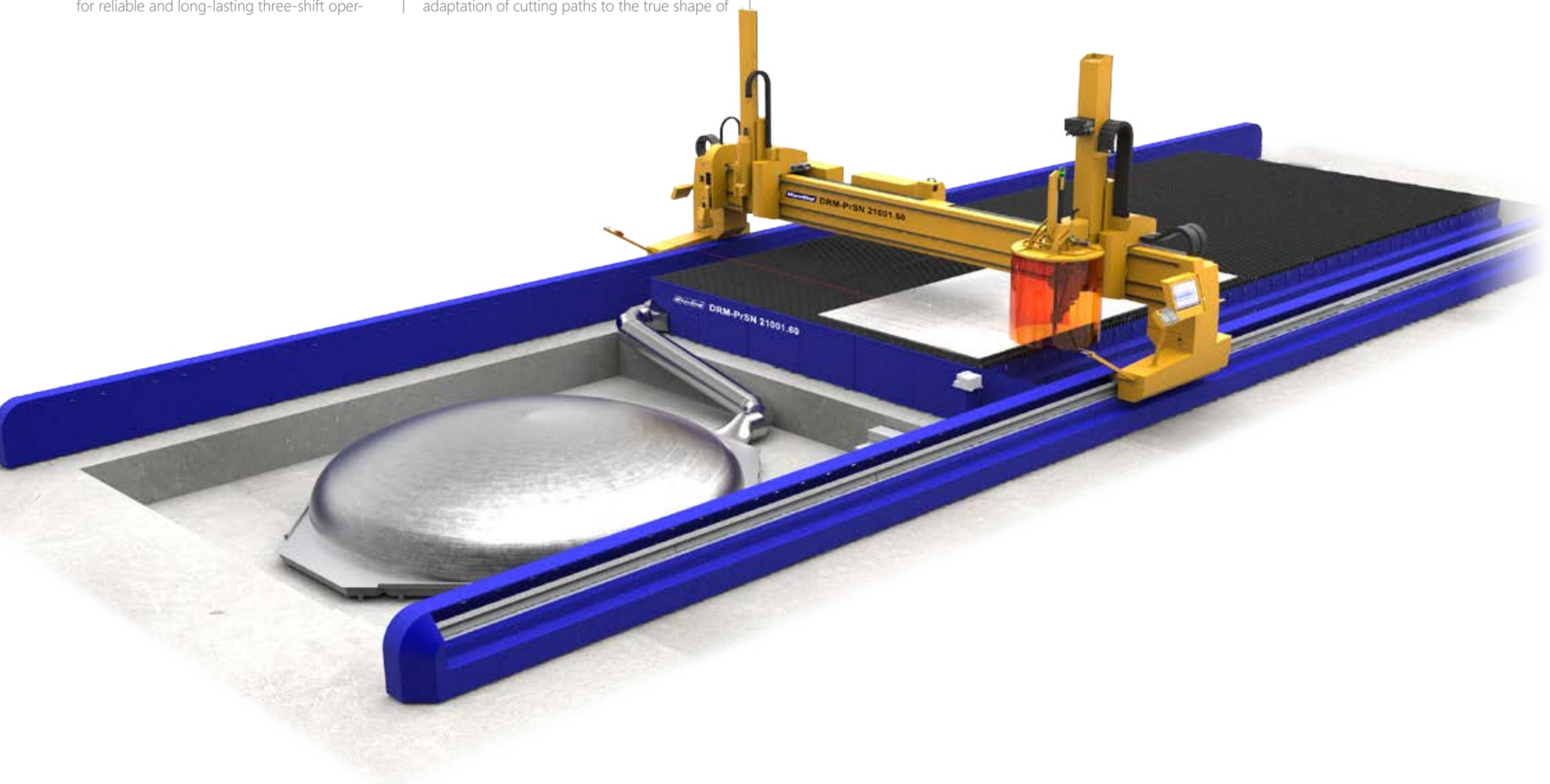
"The flexibility of technology utilization has made MicroStep very interesting for us. We can make straight cuts, bevel cuts, cut pipes or even scan already cut parts from 40 mm thick plates and make additional bevels on them. With the pipe laser and the ability to do bevel cuts we stand out – especially in connection with our latest 3D CAD systems."

*the visualisation shows pipe positioner T300 for pipes up to Ø 300 mm. Technical solution for pipes up to Ø 500 mm is upon consultation

DRM Line
The powerful expert

If you are concerned with overlapping of technological processes, highest possible precision and reliability for the toughest requirements, the DRM line is the right choice. This strong specialist is a flexible and robust cutting system for almost every cutting job. The plasma cutting system allows 3D cutting on sheet metal, pipes, profiles & domes with extraordinary dimensions.

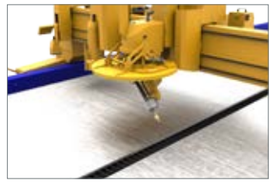
3D pipe and profile cutting up to Ø 1,500 mm, 3D dome cutting up to Ø 10,000 mm, multi-torch operation with up to 8 tools - the DRM line is a high-performance CNC system for extreme cutting tasks and opens up new dimensions in terms of productivity. Designed for reliable and long-lasting three-shift operation, this plasma cutting and drilling machine is the ideal helper when it comes to special production challenges. Its heavy and robust gantry was designed to provide extraordinary quality in all processes: drilling, cutting, bevel cutting and marking of sheets, profiles, pipes and domes. Each DRM machine is developed with the utmost respect for the individual needs of the user. Thanks to the use of high-quality components, the CNC machine has a high degree of dimensional accuracy and precision during cutting, which means a very high reproducibility and process reliability. In 2016 a new technology for DRM has been introduced: with mSCAN, the highest precision in production of dished ends is achieved by automatic adaptation of cutting paths to the true shape of each particular dome. An integrated 3D laser scanner measures the height, diameter and mid-point of a dome and by means of mSCAN – a point cloud mapping software – creates a true representation of the entire dome surface. This surface model is then used to adjust all of the cutting paths – originally generated for an ideal shape – to the actual scanned surface and thus enable high-precision cutting of contours and openings in the exact positions on the surface. Additionally, mSCAN provides an analysis of shape geometry – a comparison of the true and ideal shapes of the scanned object which in itself is a powerful tool for verification of possible production fluctulations in the production of domes.



DRM
Video presentation:

www.microstep.eu/video/

Top Features

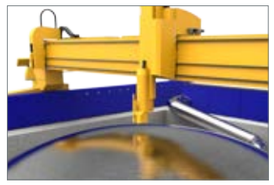


Bevel cutting on the entire surface of sheets, pipes, profiles and domes

The powerful DRM cutting systems are suitable for nearly every cutting task in a wide variety of 3D shapes. Thanks to the special 3D rotary bevel head with a tilting range up to 120° and a stroke of Z axis up to 1,200 mm it is possible to trim edges of domes and cut contours into the sides of domes and profiles.

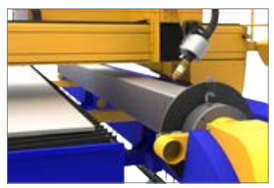
3D dome cutting

The high-performance CNC system provides precise and fully automatic processing of domes up to Ø 10,000 mm including cutting of openings for intersections, weld seam preparation, slicing of domes or cutting of custom contours into the entire dome surface.



High-precision cutting with mSCAN

MicroStep´s mSCAN software in combination with a laser scanner represent a high-end dome processing solution where an advanced 3D laser scanning process is used to measure the true shape of dome and based on the data, corrections of the cutting paths are applied to the generated cutting program to match the shape of the particular dome.



3D pipe & profile cutting

The cutting abilities of DRM machines can be extended by adding a pipe cutting zone along the cutting table. With a dedicated pipe cutting device, the whole range of pipe based applications for pipe diameters ranging from Ø 30 –1,000 mm can be provided – and even more upon request.

+ all ***features*** can be found on our website

Heiko Kunze
Head of Maintenance
Feldbinder Spezialfahrzeugwerke GmbH

FFB Feldbinder Spezialfahrzeugwerke GmbH

„The machines are up and running and do what they are supposed to do. The machine for tank end production is simply irreplaceable."

MasterCut Compact
The original

Demand for MasterCut Compact is growing ever since its introduction a few years back. Particularly small and medium-sized metal workshops rely on the high cutting quality of this model which MicroStep offers as a compact plasma cutting solution in a package with a filter unit and a plasma source. The current version includes some extra options – oxyfuel equipment and a 3D head for bevel cutting with plasma.

MasterCut Compact is one of the most popular cutting solutions from MicroStep. The plasma cutting machine has been developed as a compact CNC machine and has been available since 2013 in a complete package with a filter unit and plasma source in various formats. „The plasma cutting system is tailored for small and medium-sized metal companies looking for good quality at a fair price. Even if the machine will not operate continuously, it will pay off in two to three years," emphasizes Andreas Kaiser, Head of Key Account at MicroStep Europa GmbH. „The feedback from our customers – regardless if it is a small company or a larger enterprise – has been only positive." Now the most powerful version ever is available – upgraded to the next level with the latest generation of plasma sources, a 3D head for bevel cutting of sheet metal up to 45° for weld edge preparation incl. V, X, Y and K cuts. The bevel solution comes with the industry-proven, patented ACTG® system (auto-calibration of tool geometry) that ensures exact and reliable bevel cutting results in long term. In addition, the machine can be equipped with oxyfuel technology for economical cutting of higher material thicknesses. The standard functions of the machine include punch marking and contour marking with plasma as well as high precision 2D and 3D cutting; holes with a very good quality are achievable with a ratio diameter: material thickness 1: 1.

MasterCut Compact
Video presentation:

www.microstep.eu/video/

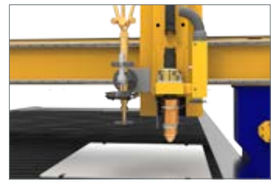
Top Features

Bevel cutting up to 45° with MasterCut 3D head

MasterCut 3D head is a bevel cutting unit suitable for a wide variety of bevel cutting jobs on sheet metal – from simple V- and X-cuts to complex Y- or K-cuts; it allows cutting up to a bevel angle of 45°.

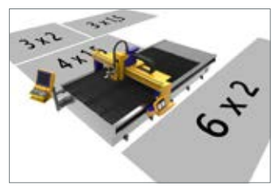
Auto-calibration station for high-precision cuts

MicroStep´s patented auto-calibration system ACTG® ensures high accuracy and long-term stability of the bevel cutting process. The unique system automatically compensates for mechanical inaccuracies of the beveling equipment e.g. after contact or collision with material – in a precision range of hundredths of a milimeter.



2D plasma & oxyfuel cutting

The 2D plasma system provides a very good price/performance ratio + high-quality cutting results at low operating costs. For economical cutting of higher material thicknesses, it can be extended by oxyfuel technology.



easySetup® assembly system / 5 sizes

The easySetup® installation concept allows the machine to be installed and put into operation within a short time. In order to meet the different production requirements, MasterCut Compact is available in five standard machine formats with working area sizes from 3 x 1.5 to 6 x 2 m.

+ all ***features*** can be found on our website

Andreas Neuhardt
CEO
Neuhardt Montageservice GmbH

Neuhardt Montageservice

„The majority of our material – mild steel – we now cut completely by ourselves - this is really a dream. The cutting machine exactly matches our expectations, we are fully satisfied."

MSF Fiber Laser
The precise all-rounder

Steel, Glass & Metal Construction
Rytz Industriebau AG
CH-4455 Zunzgen
www.rytz.ch

Rytz Industriebau AG takes care of planning and production of commercial and industrial buildings in the fields of steel-, glass-, metal- and facade constructions. The products and services of the company are trusted by customers from all over the world, such as the furniture giant Ikea or the luxury hotel chain Hilton.

In order to achieve even higher productivity, the company was searching for a solution that would take its production to a whole new level and make it stand out among the Swiss job cutting competition. After an intensive research the managing director Marco Rytz opted for a laser cutting machine featuring plate, pipe and bevel cutting. "The flexibility of the technology made the product very interesting. Now we can offer what others cannot," says Marco Rytz.

Machine:
MSF 6001.20 LtkS
Working area: 6,000 x 2,000 mm
6 kW High Power Ytterbium Fiber Laser source
Bevel cutting up to 45°
Pipe cutting for pipes with diameters Ø 30 - 300 mm
Additional Beveling Process



DRM
The powerful expert

Trailer and container production
Feldbinder Spezialfahrzeugwerke GmbH
D-06889 Lutherstadt Wittenberg
Germany
www.feldbinder.com

Whether it is silo trucks and tank trailers, rail wagons or containers made of aluminium and stainless steel: the name Feldbinder stands for innovative and high-quality products all over Europe. The manufacturer of special vehicles for the utility vehicle industry supplies its customers under the motto: We produce the "lightest utility vehicles with the largest possible payloads and long service lives". The company of 950 employees manufactures at two locations: at the headquarters in Winsen near Hamburg and in Wittenberg, where road tankers, containers and rail wagons (also) from stainless steel are produced.

The most important machine in Feldbinder is a MicroStep DRM machine for production of dished ends. The CNC system with a special rotator with a tilt angle up to 90° allows bevel cutting of the whole dome surface, with dome diameters reaching from 500 to 4,000 mm. "The system runs and does what it is supposed to do. Our eight-year old machine is not out of date and is simply irreplaceable," emphasizes Head of Maintenance Heiko Kunze.

Machine:
DRM-PR 7001.40
Dome processing Ø 500 – 4,000 mm
Rotator 90° for weld seam preparation and dome trimming


MG
The complex all-rounder

Transport systems
Doppelmayr Seilbahnen GmbH
D-6922 Wolfurt
Austria
www.dopperlmayr.com

With its cableways, the Doppelmayr Group opens its doors in the airy heights of the entire globe - and develops innovative transport concepts in world´s major metropoles. In manufacturing, the cableway specialist has been familiar with the knowledge and service of MicroStep for 15 years. In order to be optimally prepared for future requirements, the 60 m long production line from MicroStep installed in 2001 is presently undergoing a technological modernization. Recently an 18 m long MG plasma-cutting system was installed, with advanced automation features: CCD cameras for detection of holes and markings and their synchronizing with machine´s coordinate system.

„We are confident that with this new acquisition we will make a leap forward in terms of efficient production. Our primary concern is further automation of our production. The collaboration with MicroStep is decent. We want to deepen it in the future," states Walter Eberle from the Production Planning Team.

Machine:
MG 18001.30 PrkcPGG + 1.30 GGGG
Working area: 18,000 x 3,000 mm
1st gantry: bevel cutting up to 50°, CCD camera, 2D plasma, 2x oxyfuel
2nd gantry: 4x oxyfuel


MasterCut Compact
The original

Steel construction & metalworking
BAU-Metall GmbH Rostock
D-18211 Bargeshagen
Germany
www.bau-metall.de

BAU-Metall GmbH Rostock has been undergoing rapid development since its founding in 1990. The renowned specialist company of 45 employees has cooperated in the construction of the Hamburg Elbphilharmonie, the Berlin main railway station, the city tunnel in Leipzig or and the Marco Polo tower in Hamburg. International names such as Strabag, Hochtief or Züblin rely on the company's services. In order to be able to process their custom solutions more timely, the company went on search for a plasma cutting machine and compared offers from renowned manufacturers at the EuroBlech fair in Hanover. "First of all, we observed the cutting qualities of the machines. No manufacturer was able to keep up with MicroStep," says Dipl.-Ing. Andreas Wegner who then decided for a MasterCut Compact machine with a bevel head up to 45° for weld seam preparation. Thanks to abilities of the machine, BAU-Metall GmbH can now meet the DIN EN 1090 standard by its own means.

Machine:
MasterCut Compact bevelplus 4001.20
Working area: 4,000 x 2,000 mm
Bevel cutting up to 45°

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 – and that for sheets, pipes, profiles as well as domes. See the cutting sample above – bevel cutting of contours and openings, drilling, tapping, countersinking, punch marking and contour marking, all produced in a fully automatic mode on our plasma all-rounder MG.

This versatility can be experienced in the laser field as well: our modular fiber laser system MSF provides bevel cutting of plates and pipes by laser as well as drilling, tapping, countersinking, marking and automatic material handling options.

Contact the MicroStep representative in your area!

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

MicroStep®

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