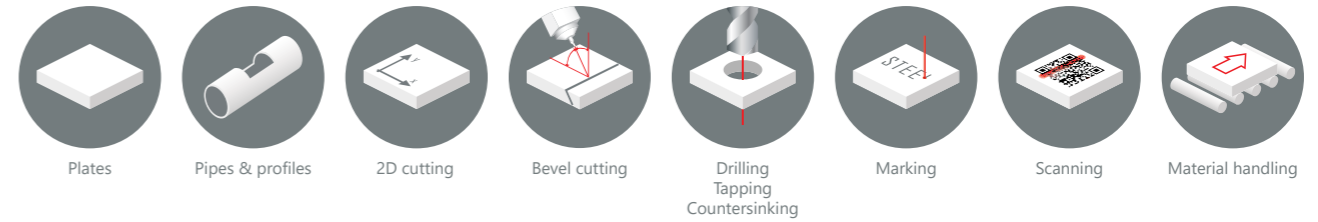




MSF Pro series

Powerful solution for fiber laser cutting



MicroStep's precise **laser all-rounder MSF Pro** allows for multi-functional processing of materials: 2D and 3D cutting of sheets with bevels up to 45°, drilling, tapping, countersinking and marking. The machine can be equipped with a turret drilling head for 6 tools that allows **drilling up to Ø 15 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 Pro machines deliver consistent, highly precise bevel cutting results in a reliable process with minimum downtimes for maintenance. Another innovative technology – ABP – offers the option of adding bevels to already cut parts, for example to thicker workpieces that were cut with plasma or oxyfuel in advance. By default, MSF Pro machines are equipped with automatic shuttle tables, whereas **automated material handling** and **sorting** options for sheets, pipes and profiles are likewise available.

MSF Pro machines are designed for production of highly accurate parts at high cutting speeds, with surprisingly low maintenance and operational costs. Their outstanding dynamics is achieved thanks to their rigid welded gantries, high-torque digital AC drives, precision planetary gears and the sophisticated tool motion control by MicroStep. The machine includes several advanced functions by default, such as automatic nozzle cleaning, nozzle check by camera, predictive collision prevention, auto-monitoring of protection glass, Smart Z Movement and DynaFly features. The machines are equipped with state-of-the-art fiber laser sources with powers up to 20 kW, including sources with beam shaping technology.





Robust, dynamic, and long-lasting machine design

- Gantries with extremely high torsion resistance enable high traverse speeds of up to 180 m/min with steel gantry and 200 m/min with carbon gantry
- 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) and DynaFly features 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 tower storage and part sorting



Carbon gantry for highly dynamic 2D cutting

For straight cutting with a single head up to an effective width 2 m, a carbon gantry option provides significant advantages:

- higher traverse speed (200 m/min) and acceleration result in productivity gain up to 15 – 25% (for medium-sized parts with medium complexity)
- vibration dampening properties of carbon allow for more rapid changes of direction which translates to faster cutting of complex contours
- up to 40% weight decrease of gantry results in slower wear of load bearing components



Pipe and profile cutting

- Supplementary pipe and profile cutting as add-on to sheet processing
- 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 supports positioned 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 15 mm and tapping up to M16

- Fully automatic drilling solution for laser machines
- Drilling up to Ø 15 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



MSF Pro machines can be fully automated via material handling and sorting systems and CyberFab® Manager software



Bevel cutting up to 45°

Pipe and profile cutting option

Turret drilling head with auto-calibration



Multi-functional machine with additional beveling and inkjet marking



A combined machine with automated pipe cutting