



MSF series

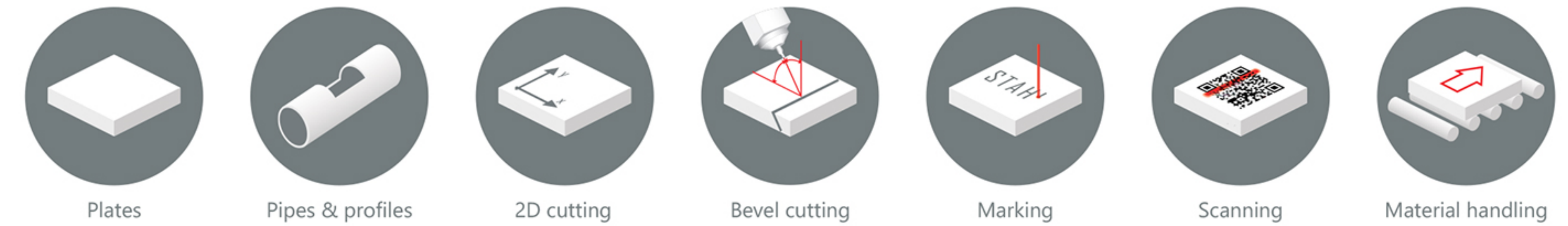
Powerful solution for fiber laser cutting

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. [Now 20 kW](#)



MicroStep®



Robust, dynamic, and long-lasting machine design

- Gantry 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 CO₂ laser of the same power)
- The complete machine is nearly maintenance-free
- No laser gases necessary
- Smaller footprint in comparison to CO₂ lasers
- No warm-up time, after switching on immediately ready to work



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



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



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