

Laser Cutting Machines

ACE.Laser ST 3015 6.0R

SKU : 141204

The ACE.Laser ST series consists of advanced cutting systems that allow machining of large metal sheets in small spaces. All components are field tested and tuned perfectly for the cutting process. The machine configuration includes the complete cutting package with filtered vacuum exhaust. The pull-out table allows quick loading and unloading without taking up much space. These characteristics make the ACE-Laser the first choice for industrial laser cutting applications - from complex workpieces with lot size 1 to large-scale series productions in the electronics, aerospace or automobile industries.

- Compact design, long service life and excellent beam quality
- Motorised retractable cutting table for easy loading and unloading
- Complete cutting package with filter extraction system
- Comprehensive KNUTH service: installation, commissioning and maintenance



TECHNICAL SPECS

WORKING AREA

Table dimensions	3000 mm x 1500 mm
Workpiece weight (max.)	1000 kg

TRAVELS

Travel X-axis	1530 mm
Travel Y-axis	3050 mm
Travel Z-axis	100 mm

RAPID FEED

Rapid feed X-/ Y-axis	80 m/min
Z-axis rapid feed	40 m/min

ACCURACIES

Positioning accuracy	0.03 mm/m
Repeatability	0.03 mm/m

LASER

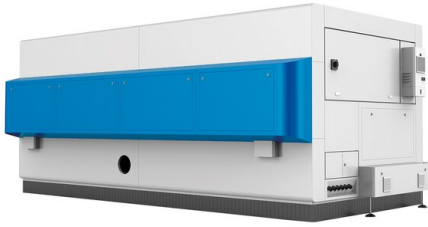
Fiber laser	6000 W
Shaft length	1,08 ± 10% µm
Beam power max.	6000 W
Power consumption	6.5 kW
Cutting capacity in structural steel	22 mm
Cutting capacity in stainless steel	14 mm
Cutting capacity in aluminum	12 mm

DRIVE CAPACITY

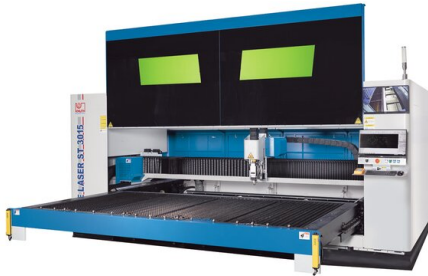
Machine drive capacity X-axis	1.7 kW
Machine drive capacity Y-axis	2.4 kW
Machine drive capacity Z-axis	0.4 kW

MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	4.75 m x 2.26 m x 2.1 m
Weight	5350 kg



The cutting system is fully enclosed to protect operators and environment



The work table is mounted on a heavy-duty pull-out mechanism and easily can hold loads up to 1000 kg in the fully extended position



Filter system with HEPA 14 filter and W3 certified dust separation (Fig. for 6 kW)



Cutter head with integrated collision guard, automatic focus positioning, and height control

PRODUCT DETAILS

- This state-of-the-art laser cutting system features a large 3000 x 1500 mm work area and fiber laser sources with 1500 to 6000 Watt beam power
- For loading and unloading the work table can be pulled out from the machine's full enclosure
- The work table is mounted on a heavy-duty pull-out mechanism and easily can hold loads up to 1000 kg in the fully extended position
- The torsionally rigid gantry spans across the long side of the work table and is moved synchronously on both sides
- The machine meets perpendicularity or squareness tolerances for laser cutting acc. to DIN EN ISO 9013-1
- The machine frame is made of a heat treated weldment ensuring tension-free construction and long-term repeatability for all cut parts
- The precision linear guides require minimal maintenance and are designed for long-lasting precision and high cutting speeds
- High-precision rack-and-pinion gears on the X and Y axis ensure superior and reliable positioning accuracy
- Feeds are driven by powerful servo-motors ensuring high dynamics and exact implementation of technology parameters for superior cut quality of delicate contours and maximum productivity when working with large parts
- To ensure operator and environment safety the cutting system is totally enclosed, and a custom safety glass window provides a clear view to observe the cutting process inside the machine
- A hand-held control is included for quick and easy machine setup

Control

- The machine includes a high-performance CNC system with large display and intuitive user interface
- All machine functions are centrally displayed and the user-friendly design ensures short training periods
- An additional monitor is provided for monitoring loading and cutting processes via integrated video cameras
- Remote access to the control for diagnostic and maintenance purposes is possible via an Ethernet interface
- Proportional valves regulate the gas pressures (set in the control) during the cutting process.

Nesting Software

- CypCut is a powerful Nesting and Cutting Software that supports all common file formats (Ai, DXF, PLT, LXD)
- A technology database includes cutting parameters and predefined cycles for various metals
- Automatic nesting saves much time, allows custom adjustments, and ensures optimum material utilization

Cutting head

- Models with up to 4 kW beam power are equipped with the proven RayTools cutter head, and 6 kW models use the BOCI BLT cutter head
- All models feature an integrated collision guard, automatic focus positioning and height control
- The laser beam focus continuously adjusts itself based on material conditions during program execution
- Features a low maintenance design for quick and easy servicing

Laser source

- Raycus fiber lasers provide superior electro-optic conversion efficiency, high beam quality, high energy density, and wide modulation frequency
- The long lasting maintenance-free laser source reduces maintenance and operating cost
- A water cooling system ensures optimum temperature balance and protects thermally exposed components in the production environment

Vacuum exhaust

- The ACE.Laser ST series includes a powerful filtered vacuum exhaust that is matched to the laser source power
- This highly efficient filtered exhaust system removes particles and fumes generated during production protecting operator health, ensuring high product quality and long machine life

STANDARD EQUIPMENT

Complete system with CNC control (FSCUT4000)
CypCut CAD/CAM Software
CypNest offline software
BOCI BLT 4 Generation autofocus cutting head
Dust collector and filtration unit
Laser safety cabin
Recirculating water cooling system for the laser source
Aventics proportional valve
Operator instructions

OPTIONAL EQUIPMENT

- Refrigerated compressed air dryers, SKU : 251090
- Oxygen pressure reducer 200 bar/0-20bar infinitely variable, SKU : 254030
- Nitrogen pressure reducer 200 bar to 50 bar 1-stage, SKU : 254031
- Oxygen pressure reducer 300 bar/0-20bar, SKU : 254032
- Nitrogen pressure reducer 300 bar/0-50bar, SKU : 254033