

# Laser Cutting Machines

## ACE Laser 4020 4.0 IPG

**SKU : 490004**

The machines of the ACE Laser series offer a cutting system that sets new standards in price and performance. They are optimally designed for the cutting process and excellent part quality. The machines guarantee productivity, safety and reliability. Comprehensive standard equipment ensures efficiency and versatility. These properties make the ACE Laser the ideal choice for industrial laser cutting applications, from complex workpieces with a lot size of 1 to large series production in electronics, aerospace or the automotive industry.

- Rugged design with high quality components
- Complete cutting package
- Comprehensive KNUTH service: setup, commissioning, and maintenance



### TECHNICAL SPECS

#### WORKING AREA

Table dimensions	157 in x 79 in
Workpiece weight (max.)	3300 lbs
Axis acceleration X- / Y-axis	33 ft/s <sup>2</sup>
Axis acceleration Z axis	16 ft/s <sup>2</sup>

#### TRAVELS

Travel X-axis	79.5 in
Travel Y-axis	159 in
Travel Z-axis	4 in

#### RAPID FEED

X-axis rapid feed	327 fpm
Y-axis rapid feed	327 fpm
Change time at cutting table	12 sec - 17 sec

#### LASER

Fiber laser	4000 W
Shaft length	108 ± 10% μm
Beam power max.	4000 W
Pulse frequency	50~5k Hz
Power consumption	26.82 Hp
Cutting capacity in structural steel	0.47 in
Cutting capacity in stainless steel	0.24 in
Cutting capacity in aluminum	0.197 in

#### DRIVE CAPACITY

Machine drive capacity X-axis	1.3 Hp
Machine drive capacity Y-axis	2 Hp
Machine drive capacity Z-axis	0.5 Hp

#### MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	408 in x 169 in x 87 in
Weight	19800 lbs



*Protection of the working area through ergonomic housing with protective special glass windows and two front doors with locking system*



*Automatic exchange table system with light safe system*

## PRODUCT DETAILS

- This state-of-the-art laser cutting system features a gantry-style construction with drives on both sides and a large working area of 118 x 59 inch up to 236 inch x 79 inch that can accommodate most of the common plate sizes
- The Y axis portal features an aluminum die-cast construction with low weight and high rigidity for excellent dynamics
- Thermal treatment of the meticulously welded machine frame and all structural parts reliably eliminates production-related material stresses – ensuring long-lasting, precise alignment of all components. This ensures long-term and reproducible cutting edge accuracy and long machine life
- 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 Z and Y axis ensure superior and reliable positioning accuracy
- Powerful servo-motors on all axes
- For the safety of people and the environment, the cutting system is equipped with a machine housing and filter extraction system. Special protective glass windows make it possible to observe the cutting process
- An automatic shuttle table system minimizes production downtimes, since the table can be loaded and unloaded during the cutting process
- Perpendicularity or squareness tolerance for laser cutting acc. to DIN EN ISO 9013-1

### Control

- Easy operation with user-friendly optimized interface
- A technology database includes cutting parameters and pre-set cycles for various metals
- The efficient processing of all cutting jobs is further supported by user-friendly software for the selection of process parameters
- Solenoid and proportional valves regulate the gas pressures (set in the control) during the cutting process

### Cutting head

- High-quality cutter head made by Precitec with motorized focus position adjustment, integrated collision guard, and level control
- Maintenance-free beam guide is provided by a flexible fiberoptic cable and ensures a long tool life

### Laser Sources

- The ytterbium fiber laser provides 1000 to 4000 W beam power, is made by the renowned manufacturer, IPG, and ensures maximum cut quality and productivity
- The maintenance-free laser source reduces maintenance and operating cost

## STANDARD EQUIPMENT

CypCut CNC controller  
 IPG fiber laser  
 Fiberoptic cable  
 Precitec high-pressure cutter head  
 Automatic focus position adjustment  
 Full protective housing  
 Automatic changing table system  
 Dust collector and filtration unit  
 Automatic gas console with electrovalves for Oxygen and Nitrogen  
 Central lubrication  
 Recirculating water cooling system for the laser source  
 CAD/CAM software (CypCut)  
 Operating manual and programming instructions

## OPTIONAL EQUIPMENT

- Refrigerated compressed air dryers, SKU : 251090
- Tube cutter 236 inch (for 1.3-4 HP), SKU : 253237

