



SINCE
1988

Sheet metal
working
machines

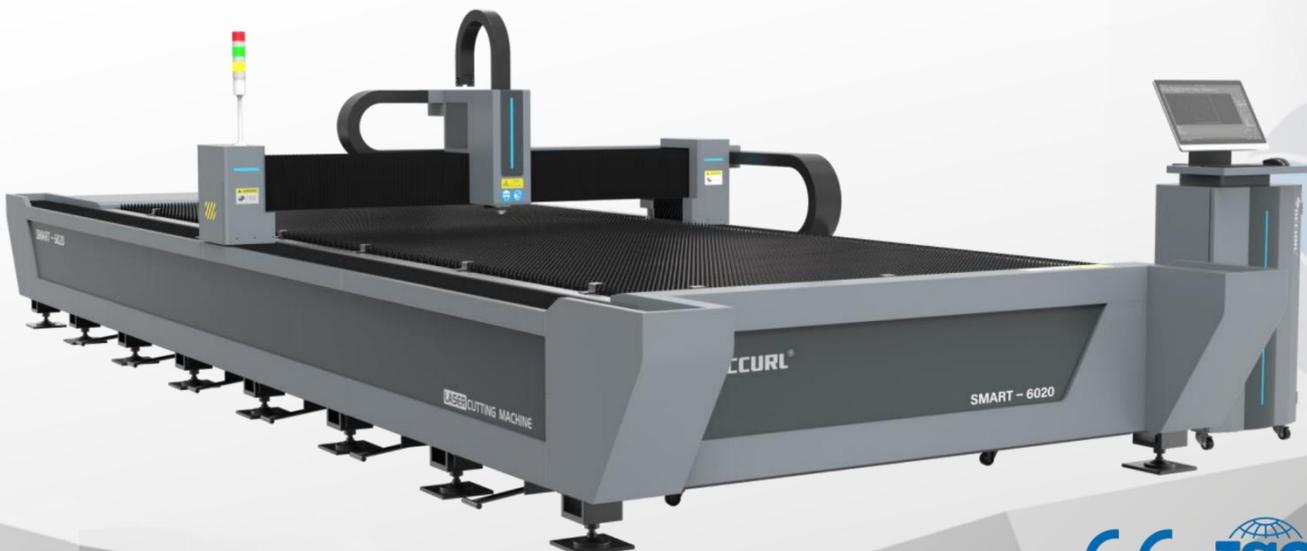
SMART[®] 3015
Fiber Laser 6Kw

Complete range of fiber laser cutting
machinery

**LASER
TECHNOLOGIES**

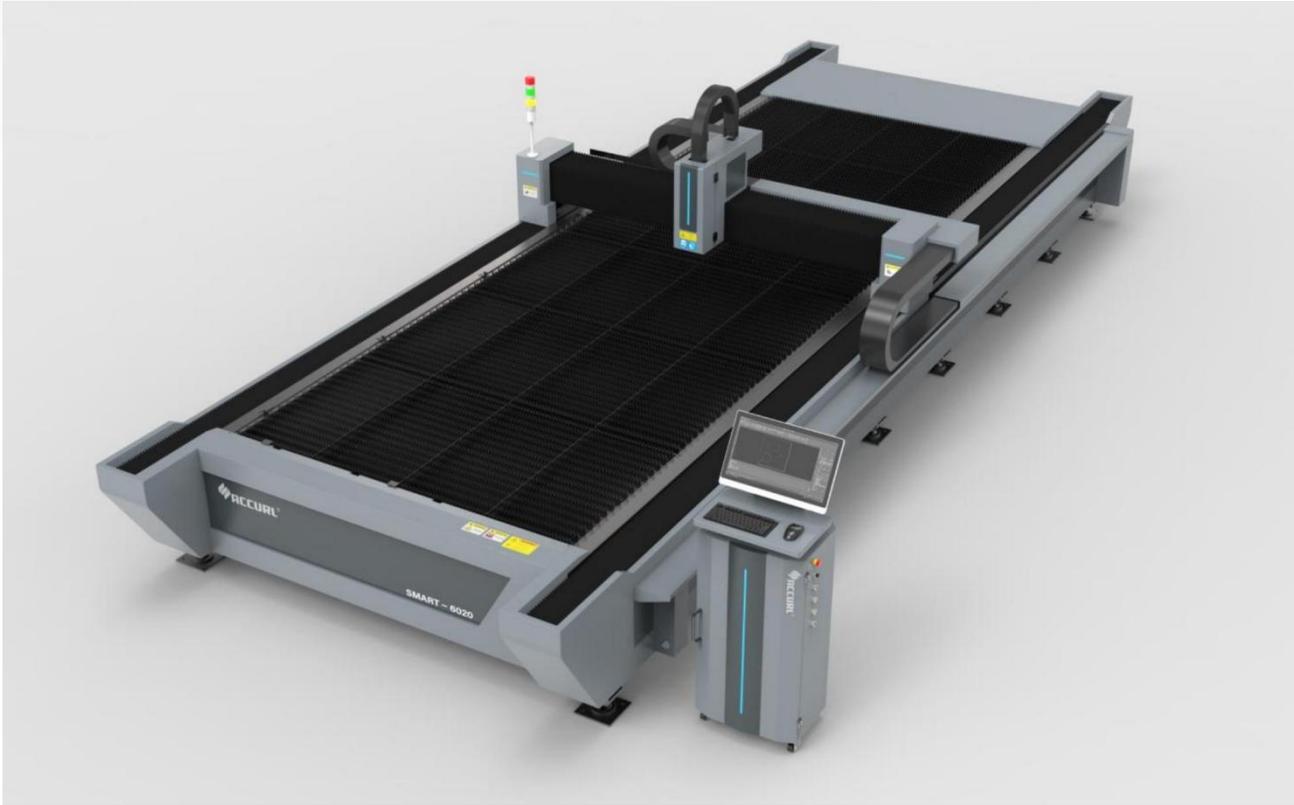


MAX PHOTONICS



TECHNICAL:

ACCURL® SMART Series Packed with a host of easy-to-use features, the SMART Model is the compact, versatile and can optional with profile processing technology for undisputed superior quality results. suitable for a wide range of materials, including highly-reflective metals and high thickness mild steel.



THE LASER | 2D CUTTING

NEXT LEVEL LASER CUTTING MACHINE:

Comparison of Key Features:

Max. laser power	12 [kW]
Max. acceleration	1.2 [G]
Positioning speed	100/120 [m/mm]
Repeatability	0,03[m/m]

The components guarantee precision cutting:

Thanks to having the highest quality components such as: IPG & MAX laser fiber source, Precitec & BOCI cutting head or modern body, ACCURL laser cutters can operate continuously 7 days a week, 365 days a year. The top performance of the machine and the low operating costs make the SMART series the most frequently used system for demanding mass production.

Today's volatile market demands that companies be competitive, accurate and reactive. ACCURL products continue to evolve, bringing efficiency to a whole new level.

4. 
INDUSTRY

ACCURL

CREATING THE VALUE OF SUCCESS:

[Vision]

The company that provides fun and joy

[Mission]

Creating the value of success through customer satisfaction

[Core Value]

Challenge · Change · Creativity · Content · Credibility



Challenge

Change

Creativity

Content

Credibility

Sheet metal
working
machines



WHY CHOOSE PRODUCT OF THIS FAMILY ?

Innovative Modular Design:

<33 years of experience and more than 12,000 installed machines.

<An expert R&D team committed to research the most competitive technology for our customers.

Experience:

More Varied Solutions for Cutting:

<Sustainability and social responsibility are characteristics of modern companies and add to competitiveness.

<Comprehensive range of basic tools in stock and modified solutions according to customer needs.

ACCURL High Quality Equipment:

<The critical parts of the Accurl laser machine are manufactured in Germany.

<We rely on our quality and therefore give our laser cutting machine a 3-year warranty.

<The IPG Fiber resonator. Power from 1Kw To 30kw.

After-Sales Service:

<Original ACCURL spare parts to guarantee full performance and prolonged durability.

<Wide range of consultation services on machine operation, programming and maintenance.

ACCURL



MECHANICAL PROCESSES:

ACCURL® have vast experience with R&D and designing components to very tight tolerances with SOLIDWORKS 3D CAD modelling techniques, and ACCURL Engineers are competent in designing with first principle calculations for the CNC press brake and laser cutting machine.

EFFICIENT FUMES EXTRACTION:

Four wide openings under the pallet in the working area are provided to ensure optimal extraction of the fumes and dust generated during cutting operations. The mechanical design of the pallet ensures maximum suction efficiency thus keeping the cutting area free of fumes and cutting dust.



HEAT TREATMENT PROCESSES:

ACCURL® press brake and laser cutting machine steel frames undergo annealing at over 600° to relieve stress, and they are built to last years of heavy use without distortion.

ADVANCED:

- Very stiff and stable base frame
- Electric welding of high precision
- Usage of high-tech boring machines for extreme precision parts.



FINISHING MACHINING:

The machine frame goes through a heat treatment process for welding stress relief. Accurl frames are machined with 5 axis CNC machining centers with single reference fixing. This keeps all axis parallel and the surfaces of the machine precise which provides great accuracy and longevity to the machine.



ADVANCED:

- The machine welding is made by welding apparatus and welding robots.
- Eight(8) zone & ducted exhaust system
- Dual synchronized twin servo motor drive system
- After the stress relief process machine frame goes to CNC 5 axes machining centers for accuracy.

A heavier frame means less vibration and better accuracy. the machine frames are reinforced to minimize twists and deformation while the robust frame of the machine is joined to the chassis by steel bars.

ALUMINIUM GANTRY STRUCTURE:

ACCURL® high tech aluminium crossbeam is cast in a specially manufactured 10-tonne steel mould. This allows better rigidity at 50% of the weight of traditional iron gantries, allowing higher acceleration with reduced inertia.

ADVANCED:

- ACCURL®s high tech aluminium crossbeam is cast in a specially manufactured 10-tonne steel mould.
- This allows better rigidity at 50% of the weight of traditional iron gantries, allowing higher acceleration with reduced inertia. This creates less wear and tear on the

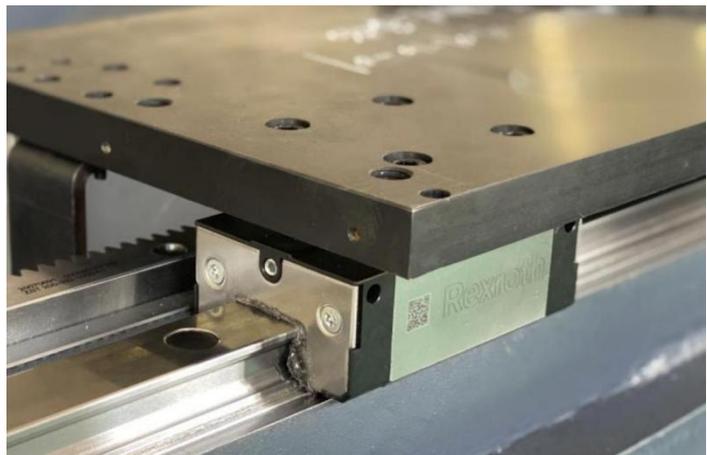


HIGHEST QUALITY LINEAR SYSTEMS:

The beam is mounted on a pair of precision REXROTH linear guide rails & with advanced German ALPHA engineering and precision manufacturing have created the highest quality linear systems available today.

ADVANCED:

- REXROTH & HIWIN linear guide rails
- Best racks and pinions from YYC/APEX
- High acceleration results (100 m/s²)



RACK AND PINION MOTION SYSTEM

ACCURL® Laser uses the best racks and pinions from ALPHA. High precision two-way, hardened helical racks with low running clearance make it possible to achieve very high acceleration and speeds synchronized 120 m/min.



ADVANCED::

- SHIMPO gear rack and pinion system(Japan)
- Low backlash planetary gear head
- Helical rack & pinion for smooth and silent motion
- Maximum compact precision (accuracy $\pm 0,05\text{mm}$)

LASER CUTTING CONTROL SYSTEM:

FSCUT4000E is a cost-effective laser control system applies to 1.5-8KW power cutting. Based on EtherCAT, integrating motion control, laser control, and gas control, it widely applies to metal sheet, cookware and lamps cutting.

THE LASER EXPERIENCE MAKE THE DIFFERENCE:



HYP CUT FSCUT4000E CNC

SYSTEM FEATURES:

- High-speed **EtherCAT communication**
- Highly dynamic servo drive technology
- Integrated retention brake control.
- Automatic adaptation of parameters.
- Technology table for all relevant cutting parameters:
- Speed: **Maximum acceleration 2G**, maximum single spindle **speed 120m/min**.
- Accuracy: Theoretical **path accuracy $\pm 0.005\text{mm}$** , positioning **accuracy 0.01mm**.
- Master-slave type dual drive control, cross coupling control, speed and acceleration look-ahead control.

CONTROL PERFORMANCE:

- The real-time EtherCAT system is more scalable.
- Support advanced cutting technique for thick material production.
- Support basic technique of Fly cut, frog-leap lifting, kerf width compensation, lead line, micro-joint, pre-piercing etc.
- advanced functions of find workpiece edge, auto focus control, dual shuttle, break point locate, QR code generation, remnant split, round tube cutting etc.

BOCI BLT 421 LASER CUTTING HEAD:

•The BLT series intelligent laser cutting head is a full-function bus-controlled cutting head specially launched for sheet metal processing industry. Easy to install, easy to debug, excellent performance, complete sensor is one of the few intelligent cutting head in the market.

BLT 6 Series High-Power Smart Cutter



PERMANENTLY STABLE AND FAST:

•The BLT421 cutting head comes with a revolutionary compact design and offers unmatched stable and precise operation. Achieve high-cutting edge quality, reduce service costs and downtime with the new laser cutting head from BOCI.

FIRM. FLEXIBLE. FAST:

- Excellent cut quality
- Low process time
- Easy to maintain

PERMANENTLY EXCELLENT CUTTING QUALITY

- Smooth cutting edges with minimal burrs
- LED operating status display
- Short process times
- Process-stable machining of thick materials



APP MONITOR:

•Master machine tool dynamics, processing information, task categories, processing progress, alarm notification time.

Stable and Efficient Cutting

- Brand new optical solutions come with closed-loop auto focusing.
- Slag-free Cutting, Nozzle Cooling, and Water Cooling Sensor supportable.

Smart and Safe Processing

- Groups of internal sensors for real time closed-loop monitor.

High cutting-edge quality.

The basis for smooth and right-angled cutting edges with minimal burr is the ultra-stable and drift-free distance sensor system. Even at very high accelerations, it guarantees a constant distance between the component and the head. Cooling of the head provides reproducible results in series production.



FIBER LASER RESONATOR MAX*:

The MFMC is the latest super-compact hermetic cabinet packaging of kW-class lasers in power 1-20 kW range incorporating all of the features and technology advancements of MFMC series.



HIGH POWER CW FIBER LASER



FOR METAL CUTTING:

MFMC Series lasers are also available with the High Peak Power (HPP) option enabling faster and cleaner piercing, increased quality of fine feature cutting and denser part nesting.

FEATURES OF MAX FIBER LASER*

- Output Power 1-20 kW
- Optimized for 24/7 Cutting
- Wall-plug Efficiency >40%
- Cost Effective Cutting System
- High Peak Power Piercing Option
- Fiber Delivery 50, 100, 150 or 200 μm



CHARACTERISTICS:

Central Wavelength Range	1070 \pm 5 nm
Mode of Operation	CW/ Modulated
Modulation Frequency	0-5 kHz
Maximum Average Power*	6Kw, 8Kw, 10Kw, 12Kw, 15kW, 20kW, 30kW
Power Tunability	10-100
Output Fiber Core Diameter***	50 μm , 100 μm , 150 μm , 200 μm
Wall-plug Efficiency	>40 %

FUME EXTRACTION SYSTEM*

The Efficient fume extraction by means of shutters which are controlled in accordance with cutting head position results in more efficient use of the filtration system. Therefore a smaller lower cost system can be used. The system consists of six fume extraction zones.

The improved suction flow design results in:



DUST COLLECTORS EXTRACTION SYSTEM*:

High Efficiency, Compact Plug-and-Play Design Suitable for Continuous Operation

The DFOE & DFOI packaged dust collectors are designed for the collection of dust and fumes, in a packaged and compact design for a small footprint and easy, cost-effective installation.

FEATURES:

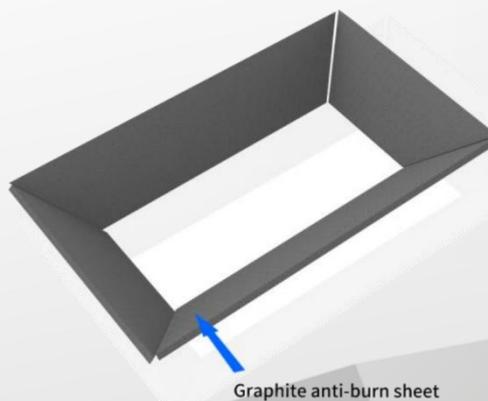
- Torit® Ultra-Web® Flame Retardant (FR) cartridge filters
- Integrated fan pack
- Optional spark trap
- Torit Delta P-C01 Delta-P Pulse Cleaning Controller

DFOE & DFOI Dust Collectors are equipped with Ultra-Web® filtration technology with a minimum MERV* 15 efficiency rating based on ASHRAE 52.2 - 2007 test standards.



GRAPHITE ANTI-BURN TECHNOLOGY*:

The area in the entire laser where the laser can shoot at is all covered and protected by manganese or graphite anti-bruning.



SPECIFICATION ICAL:

Machine tool technology parameters

Items		Technical parameters
Max cutting size (mm)		3000×1500
Effective travel	X axle(mm)	3050
	Y axle (mm)	1550
	Z axle (mm)	100
Positional accuracy	X axle (mm/m)	±0.02
	Y axle (mm/m)	±0.02
	Z axle (mm/m)	±0.01
repeated positioning accuracy	X axle (mm)	±0.02
	Y axle (mm)	±0.02
	Z axle (mm)	±0.005
Rapid positioning speed	X axle (m/min)	100
	Y axle (m/min)	100
	Z axle (m/min)	80
IP Grade		IP54
boundary dimension L×W×H(mm)		5050×2620×1550

Laser & process parameters

Items	Technical parameters
working mode	Continuous/modulation
Laser power(W)	MAX 6000W
Laser wavelength (nm)	1070
The maximum modulation frequency (KHz)	5
laser mode	SINGLE MODULE CW FIBER LASER
Optical quality (M2)	2.2mm*mrad
Power adjust range (%)	5-100
Fiber Length (m)	10m
Operating temperature (°C)	10-40
Long-term stability (24h)	< 2%
Laser life (h)	100000
Focal length F(mm)	125
Adjustable focus range (mm)	0-10
Overall Power Consumption (Kwh)	20

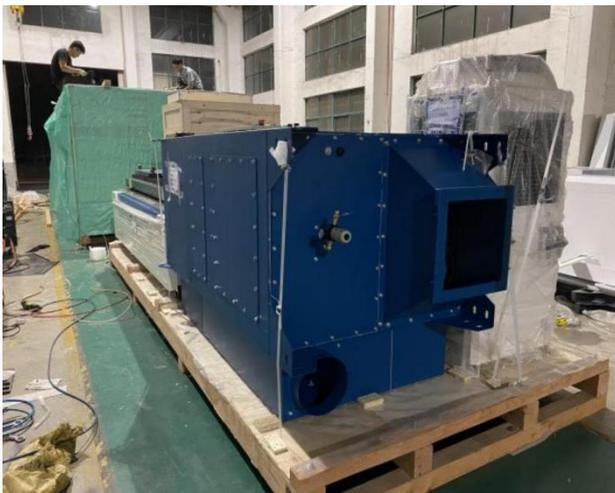
SPECIFICATIONICAL:

BEST QUALITY, High accuracy and productivity without compromises on the whole thickness range thanks to the Best integration of all machine components.

No.	Description	Brand
1	Machine main body	ACCURL
2	CNC operating cabinet	ACCURL
3	Smoke dust sucking structure	ACCURL
4	air conditioning cabinet	ACCURL
5	Air Conditioner	Tongfei
6	Fiber Laser	SINGLE MODULE CW LASER MFSC-6000
7	Laser cutting head	Cutting head BLT 421 Auto Focus
8	Laser water chiller	TONG FEI/HANLI from China
9	CNC system	FSCUT HYP CUT 4000E CNC System
10	Capacitive THC	Baichu BCS100
11	Servo motor	YASKAWA Japan
12	Gear rack	Taiwan YYC/ Level 6 precision
13	Linear Guide	HIWIN CHINA
14	Precision reducer	Japan Shimpo/3 Arc-min
15	Proportional valve for N2 & O2	Japan SMC
16	high-pressure valve	Germany Burkert
17	Electronic pieces	France Schneider
18	High-pressure Valve for N2 & O2	Germany BURKERT & Japan SMC
19	Air cylinder	Japan SMC
20	Cutting software	Cypcut
21	Voltage stabilizer	Delix
22	Isolation transformer	Huadong Electric

PACKAGING SHIPPING:

We are currently reviewing our product packaging from the angles of waste-reduction and resource-saving, and we are also working on improving transportation efficiency from the design phase of product development.



Fumigate Trays & Wooden Boxes



Vacuum and waterproof packaging

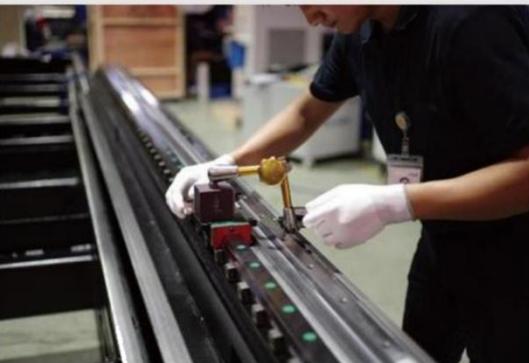
WARRANTY & SUPPORT

- Accurl's machines come with a one year free-of-charge warranty for the entire machine excluding consumables.
- Any issues will be handled quickly and effectively by the local support team.
- After the warranty period, spare parts will be provided by ACCURL at below market prices.

COMMITMENT TO QUALITY

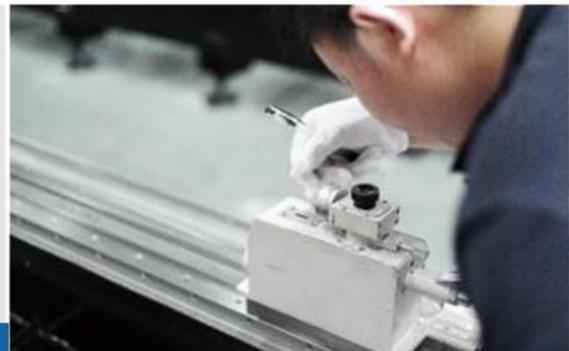
• Accurl assemble their machines to the strictest quality standards, utilizing many tools and methods to ensure accuracy all throughout their process.

• The use of an interferometer records the machines X and Y axis movement during cutting to ensure accuracy. Adjustments are made to ensure machine is precisely tuned before shipment.



• A Marble test is performed to measure the X and Y axis, calculating any necessary adjustments to ensure perfect level and alignment along length of machine.

• A collimator is run along the full length of the guide rail, testing for straightness. Adjustments are made as required to ensure linear accuracy.



With 31 years already behind us Accurl move forward to the future with experience and innovation.

