ACCURL®

SINCE 1988

Sheet metal working machines

Smart CUBE®3015
Compact Laser 6Kw

LASER TECHNOLOGIES

Complete range of fiber laser cutting machinery

MAX PHOTONICS

CE ISO TÜV SÜD

WARRANTY* 3 YEARS ACCURL

TECHNICAL:

ACCURL® Experience precision and efficiency with the Cube Compact laser cutting machine, an ideal solution for compact laser cutting. This innovative system seamlessly integrates precise 2D laser cutting into a sleek, space-saving design. Available in machining areas of 1,000 x 2,000 mm, 1,250 x 2,500 mm, and 1,500 x 3,000 mm, the CUBE Compact delivers exceptional cutting quality while minimizing space requirements..

THE LASER | 2D CUTTING

NEXT LEVEL LASER CUTTING MACHINE:

Comparison of Key Features:

Max. laser power	6 [kW]
Max. acceleration	1.0 [G]
Positioning speed	80 [m/mm]
Accuracy	0,05[mm]
Repeatability	0,03[mm]

4.0 INDUSTRY

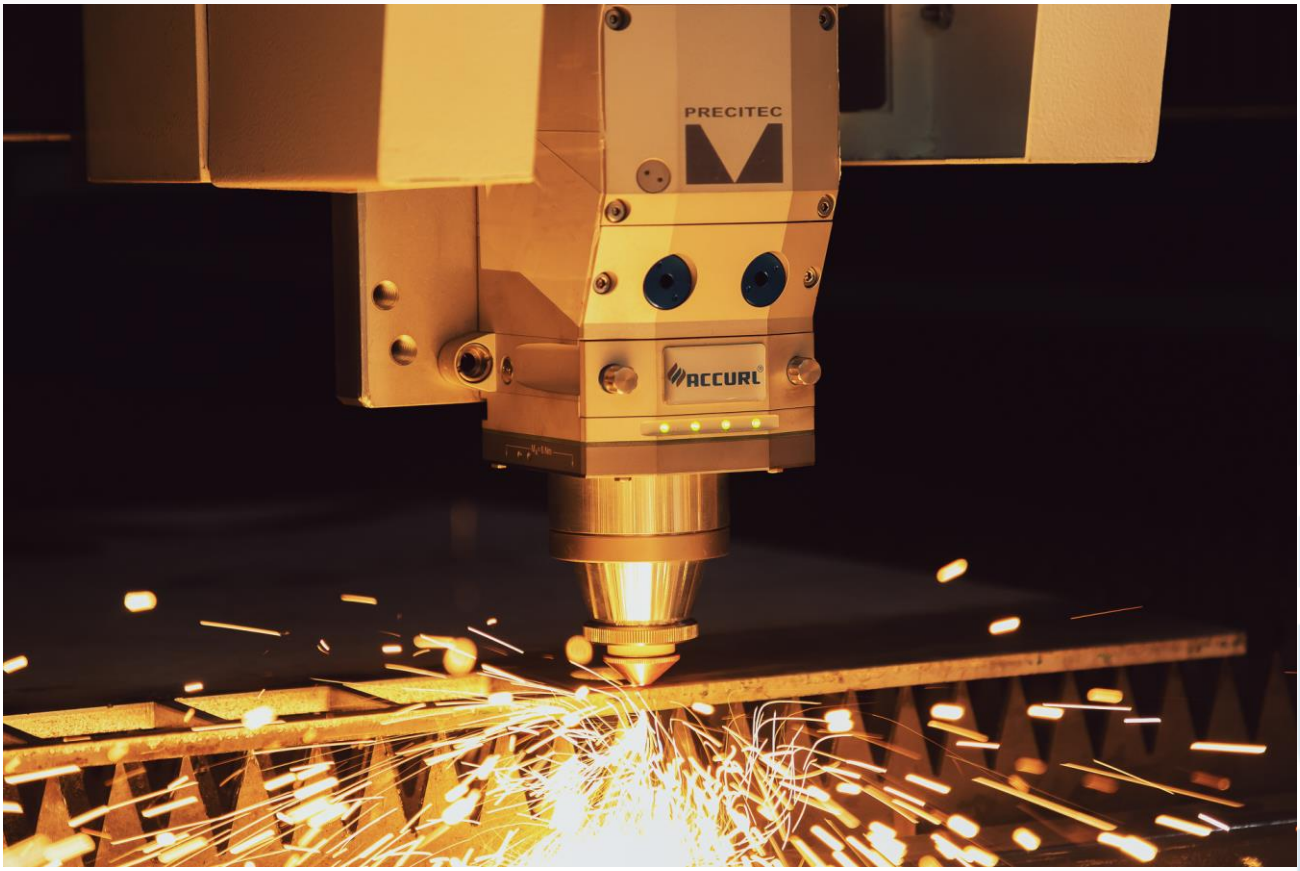
The components guarantee precision cutting:

Thanks to having the highest quality components such as: IPG laser fiber source, Precitec 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 MasterLINE 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.

WHY ACCURL LASER MACHINE ?

ACCURL® Based on machinery design technology optimized through strict structural analysis, ACCURL has been manufacturing ultralight and high-precision industrial high energy laser cutting machines.In addition, we provide total solution for sheet metal working that customers want such as bending, welding, deburring, and loading automation.



Experience

<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.

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.

FULLY IN 3D,CUT & BEND THE SHEET METAL*:

4.0 INDUSTRY

Everything with one click in 3 steps. 100% automated:

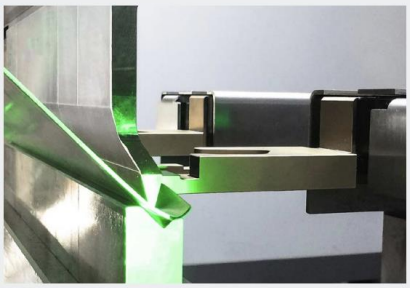
Optional item FABLE is an acronym of Fully **Automated Cut & Bend** BundLE and the operator has to set only the initial parameters:

FABLE software and algorithms will handle the entire process in a fully automated way, including unfolding.

FABLE IN ACTION:

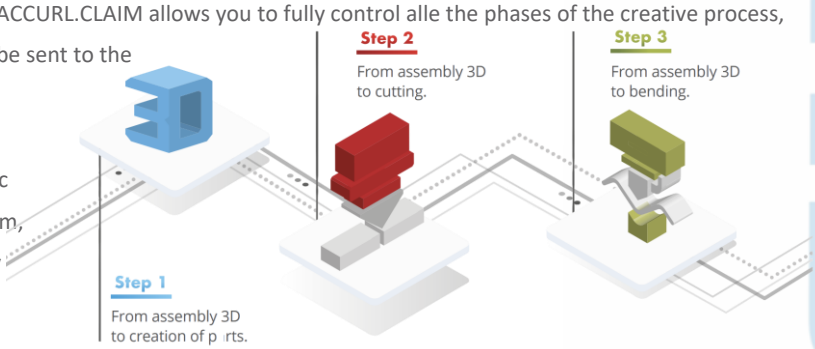
1, 2 e 3. UNFOLDED, CUT AND BEND*:





ACCURL. CLAIM FOR 3D UNFOLDING(OPTIONAL*):

•Consisting of a suite of outstanding applications,ACCURL.CLAIM allows you to fully control alle the phases of the creative process, converting ideas into technical drawings ready to be sent to the sheet metal working software.



ACCURL. iCut NESTING FOR CUTTING:

•Powerful and reliable, create or import geometric details in a moment from any other design platform, automatically optimizing their profiles & optimally preparing them for subsequent processing.

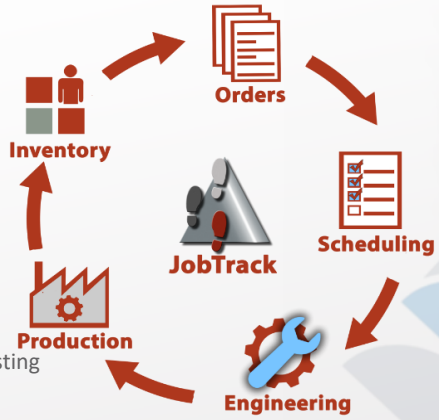
ACCURL. iBend OFFLINE FOR BENDING:

•Powerful and reliable, create or import geometric details in a moment from any other design platform, automatically optimizing their profiles and optimally preparing them for subsequent processing.

ACCURL. JopTRACK
FOR SHOP MANAGEMENT(OPTIONAL*):

JobTRACK by Accurl

•For every 4 main phases of metal sheet cutting **(quotation and order confirmation, order elaboration and warehouse checking for production)** the JobTRACK system by ACCURL offers the more suitable software able to support at best the workforce in the relevant decisions and schedules.



STEP 1 Sales Manager

From offer request to the order confirmation.
Rapid and efficient.

STEP 2 Sales Dept.

The Production Manager open the internal order issued by sales dept. and he creates a list of works to elaborate in the production dept.

STEP 3 Workshop

Order Working for the machine is ready. The operator checks nesting and start the machine.

STEP 4 Warehouse

Warehouse Check for the production from the Production Manager to the warehouse's workers. It's sent the request to prepare the necessary materials for the production with real-time updates of stocks.

Job tracking add-on is a database system for management purposes.

•Record and monitor the production\manufacturing process\flow

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^{o} 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 aparatus 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.

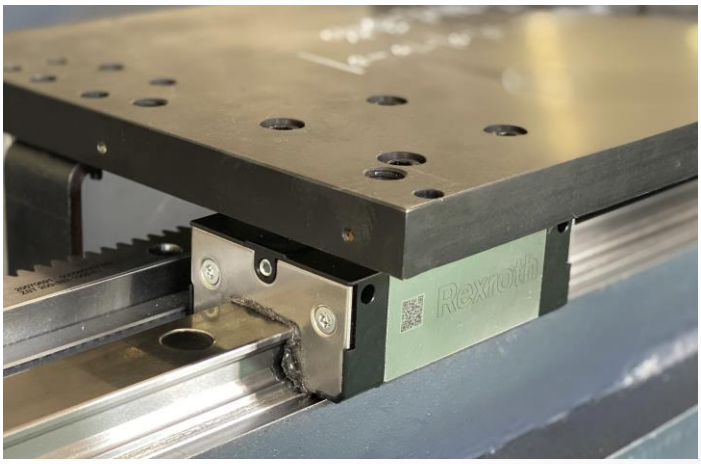
ADVANCED:

•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 linear guide rails

•Best racks and pinions from YYC/APEX

•High acceleration results (120 m/s2)

rexroth
A Bosch Company

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 150 m/min.

ADVANCED::

•SHIMPO gear rack and pinion system(Japan)

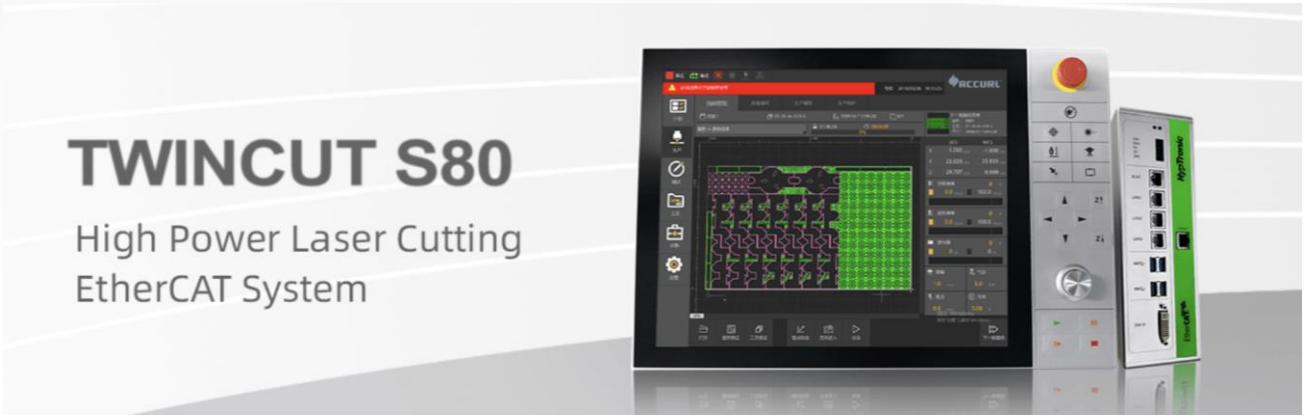
•Low backlash planetary gear head

•Heli`cal rack & pinion for smooth and silent motion

•Maximum compact precision (accuracy ± 0,05mm)

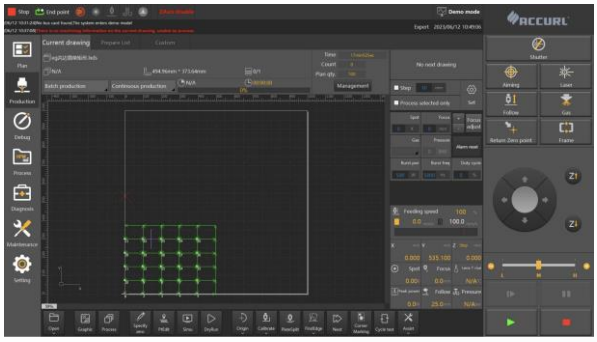
LASER CUTTING FSCUT 4000E SYSTEM*:

FSCUT4000 is EtherCAT bus system designed for 1.5-8KW power cutting, featured by out of box service, easy to install and adjust, full solution functions. It supports customization, automation and informatization solutions, is the leading edge EtherCAT laser cutting control system on the market.



THE LASER EXPERIENCE MAKE THE DIFFERENCE:

The machine automation by TwinCut encompasses:drive technology,control systems,HMI, machine vision as well as seamless integration in TwinCAT Analytics based digital solutions for **Industry 4.0**.



FSCUT 4000E EtherCAT 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 ±0.005mm**, positioning **accuracy 0.01mm**.
- Provide access with laser cloud & MES to collect machine status data & inform maintenance to prolong machine usage.

CONTROL PERFORMANCE:

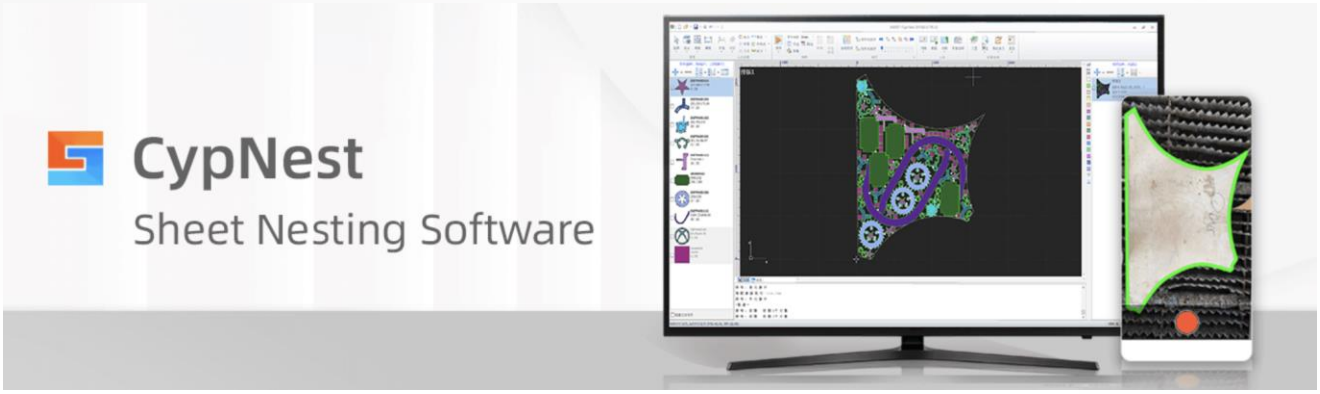
- TwinCut CNC controllers are used in laser cutting machine.and the TwinCAT NC I/CNC automation software is ideally suited for application-specific functions, including adaptive jet control, reverse travel or path resetting.

ADVANCED:

- User friendly and touch optimized.
- Easy and efficient operation.
- Fly-cut option for significantly shorter cutting times.
- Nesting CAD/CAM software on board.
- Intuitive, step-by-step assistance for machine operators.
- Quick height adjustment for a very high and constant cutting quality.
- Integrated monitoring of peripheral units like laser sources and sensors.
- Support direct production of DXF & G code;support fast process of LXDS & NRP file generated by **CypNest**.

CYPNEST SHEET NESTING SOFTWARE

The CypNest is a nesting software designed for CypCut/TwinCut sheet laser cutting system. It integrates advanced functions of drawing modification, quick nesting, toolpath generation, analysis report and more to meet your production needs.



A WINNING FORMULA:

+ Automation + Integration + Effi ciency + Productivity

- Learning times and programming = CypNest.CUT

The best of the technological research of* CypNest *in a powerful and intelligent application, which reduces the processing time.

In CypNest.CUT, the software engineers and analysts have concentrated the best of Libellula technological know-how in theme of sheet cutting:

ADVANCED:

- Fast and intuitive learning
- Full automation available in every step of the programming process
- Ability to manage all the cutting machines with the same system
- Optimization of cutting path and management for specific cutting technologies
- Management of FMS lines and / or of the manual operations:
- Optimization of nesting with the [ISA] system and less scrap
- Optimized generation of nesting on uneven scraps

HIGH SAVING OF TIME
AND MONEY

MAXIMUM PRODUCTIVITY
WITH MINIMUM SCRAP

Drawing Modification and Import

Intelligent parts recognition, drawing error identification and optimization. Support file formats of DWG and DXF. Support batch create and import parts via Excel table.

Nesting Strategy

Powerful algorithm engine of high efficiency and production rate; no limit of sheet and parts quantity in nesting; support manual and automatic nesting; support free form sheet nesting.

CypNest.CUT IS AVAILABLE FOR:

- **Management of FMS lines and / or of the manual operations**

-Reduction of the cutting number of diff erent nesting

-Automatic Skeleton cutting

-Systems management of loading / unloading and sorting systems

ACCURL®

BLT420

ACCURL BLT 3 & 4 SERIES 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.

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 ±5 nm
Mode of Operation	CW/ Modulated
Modulation Frequency	0-5 kHz
Maximum Average Power*	3Kw, 4Kw, 6Kw, 8Kw, 10Kw, 12Kw, 15kW, 20kW
Power Tunability	10-100
Output Fiber Core Diameter***	50µm, 100µm, 150µm, 200µm
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.

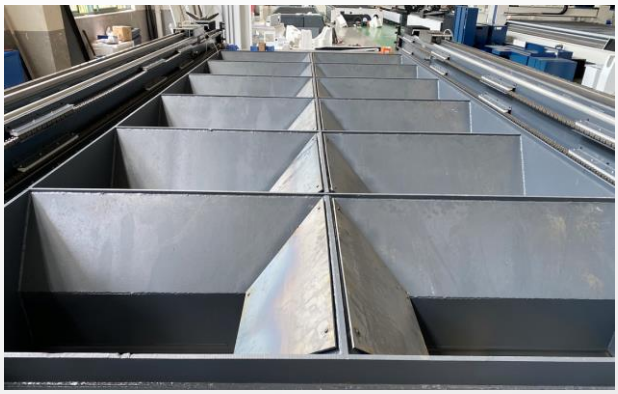
FEATURES:

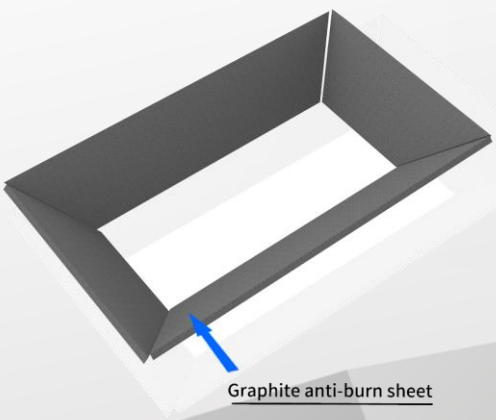
- Torit® Ultra-Web® Flame Retardant (FR) cartridge filters
- Integrated fan pack
- Optional spark trap
- Torit Delta P-C01 Delta-P Pulse Cleaning Controller

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.





GENERAL ELECTRICAL DATA.

The tailor-made solution for an investment of a known value at a known cost, that pays itself back in a known time.

Input voltage	3 x 400 V + PE (+/-10%)
Frequency	50 Hz (+/-1%)
Nominal power 3Kw	30 kW
Nominal power 4Kw	35 kW
Nominal power 5Kw	40 kW
Nominal power 6Kw	44 kW
Nominal power 10Kw	50 kW
Nominal power 12Kw	55 kW
Ground resistance	≤ 4 Ohms
Line protection switch with mA regulation and time	Magnetothermic with adjustable differential
Internet / Ethernet connection	RJ45
The installation of the electrical supply of the machine must be carried out by an authorized installer complying with the national, regional or lo- cal regulations in force. The operating voltage and the maximum admissible current must comply with the requirements of the specific machine model (technical data section) and the electrical circuit that supplies must be unique, provided with magnetothermal protection and industrial differential (adjustable in sensitivity and time of operation) 300mA and 0.5s), the cable section in this circuit being suitable to withstand the maximum admissible current according to the low voltage electrotechnical regulation. Voltage oscillations greater than +/- 10% with respect to the rated voltage, can cause damage to the machine and, therefore, void the warranty established for it.	

MACHINE SYSTEM:

Minimum inlet pressure	6 bar
Connections dimensions	½ inch
Consumption	80 l/min
Minimum inlet air quality to the machine	ISO 8573-1
Air class	Class 3.4.3
Maximum particle diameter	15 µm
Maximum oil content	1 mg/m3
Dew point	5° C
Maximum compressed air inlet to maintenance unit	40° C

TECHNOLOGIES FOR LASER MACHINES:

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

No.	Model		SMART CUBE-3015/ 6KW
1	CNC Control Unit		TWINCUT 4000E Control With YASKAWA Servo Package
2	Processing surface		3050mm x 1550mm
3	Rapid Traverse (X and Y axis)		100m/min
4	Acceleration	X-Axis	1.0G (80m/s2)
		Y-Axis	1.0G (80m/s2)
		Z-Axis	1.0G (80m/s2)
5	Positioning Accuracy		± 0.05 mm
6	Repeatability (X and Y axis)		± 0.03 mm
7	Shuttle Table Change Time		Manually Retractable Cutting Table
8	Assist Gas	Mild Steel	Oxygen 7.25 – 87 PSI (0.5-6 Bar)
		Stainless Steel	Nitrogen 7.25 - 362 PSI (0.5-25 Bar)
		Aluminum	Dry Air or Nitrogen 7.25 - 362 PSI (0.5-25 Bar)
9	Processable metals		Mild steel, stainless steel, aluminum, copper, brass
NO.	**Configuration**		
1	High Performance CNC System		FSCUT 4000 EtherCAT CNC Control System
2	CAD/CAM Software		CAD/CAM software CypNest Expert Cut
3	Laser Gnerator		MAX Laser Single module **6Kw MFSC-6000W**
4	Laser Cutting Head		Cutting head BLT 3/4 Series Auto Focus
5	Servo Motor/Drive		Japan YASKAWA
6	Motoreducer		Japan Shimpo/3 Arc-min
7	X ,Y-axis Rack		YYC (Taiwan,CN) Level 6 precision
8	Liner Guide		Germany REXROTH
9	Chiller		TONG FEI/HANLI from China
10	Hgh-pressure Valve for **N2 & O2**		Germany BURKERT & Japan SMC
11	Proportional valve		Japan SMC

PACKAGING SHIPPING:

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

ONLY TIME WILL TELL

THE VALUE OF YOUR CHOICES:

Machine reliability, operator competence, constant maintenance,reactive service are the fundamental elements to guarantee this condition.

BENEFITS:

- Technically and pedagogically trained
- Long term experienced trainers
- Practical courses with hands on
- Exchange of expertise with other participants
- Secure use of systems
- Less unproductive work time after training
- Motivated personnel

WARRANTY & SUPPORT:

•Accurl's machines come with a one year free-of-charge warranty for the entire machine excluding consumables.

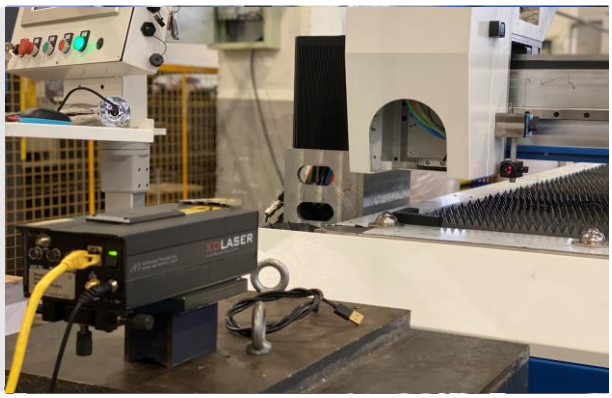
•Any issues will be handled quickly and effectively by the local support team.

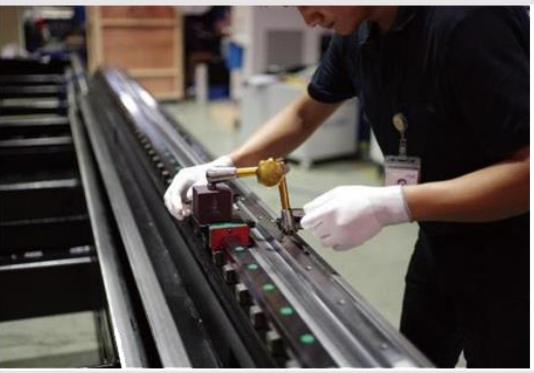
•After the warranty period, spare parts will be provided by ACCURL at below market prices.

COMMITMENT TO QUALITY

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

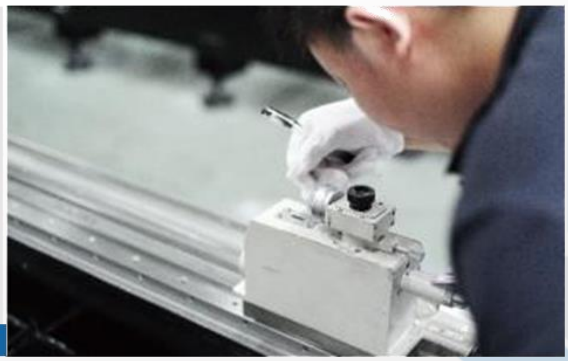
•The use of an interferometer records the machines X and Y axis movement during cutting to ensure accuracy.
Adjustments are made to ensure machine is precisely tuned before shipment.





•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 accurae linear accuracy.



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