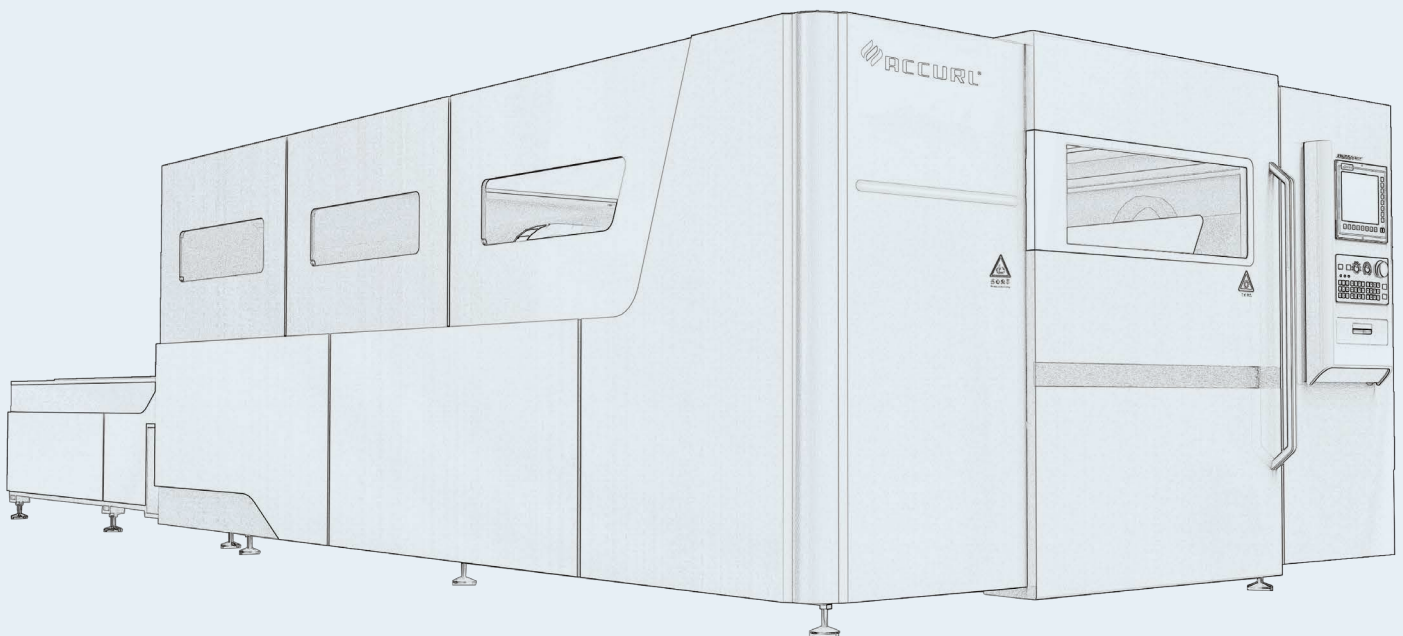


ACCURL FIBER LASER CUTTING MACHINE

ECO-FIBER SERIES



ACCURL FIBER LASER CUTTING MACHINE ECO-FIBER SERIES

ACCURL Fiber lasers outshine with its fast cutting and energy efficiency abilities when especially its compared to CO2 Easy use, maintenance and service has been achieved by the high technology of Fiber Lasers. Globally recognized efficient components used in ACCURL Fiber Lasers add value to your company.



THE WINNING FORCE

- Low operating cost and energy consumption
- Globally recognized high performance components
- Precise cuts and high durability
- High profit margin
- Perfect results on variety of material
- Efficient and precise cuts on thick and thin material

User
Friendly

Ergonomic

Efficient

Reliable
Brand

STANDARD COMPONENTS

- Germany PA8000 CNC control unit
- IPG Ytterbium Laser Resonator
- Automatic Double Pallet Changer(Shuttle Table)
- Precision Rack & Pinion Drive System (Made in Germany)
- Radan or Lantek CAD/CAM system
- Light source
- Chiller
- 3 lower protective lenses
- 3 Ceramic Nozzle Adapters
- Auto-calibrated nozzle system
- Smart Slag Collection System/ Chip Conveyor
- Fiber Beam Transmission System (Fiber Cable)
- Operates with both N2 and O2 (cutting) gases
- Home Position Alignment System
- Auxiliary Gas Selector
- Auto Reflection Warning
- Working Lights
- 5 Nozzles each of the Following: (1.0mm, 1.2mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm)

OPTIONAL COMPONENTS

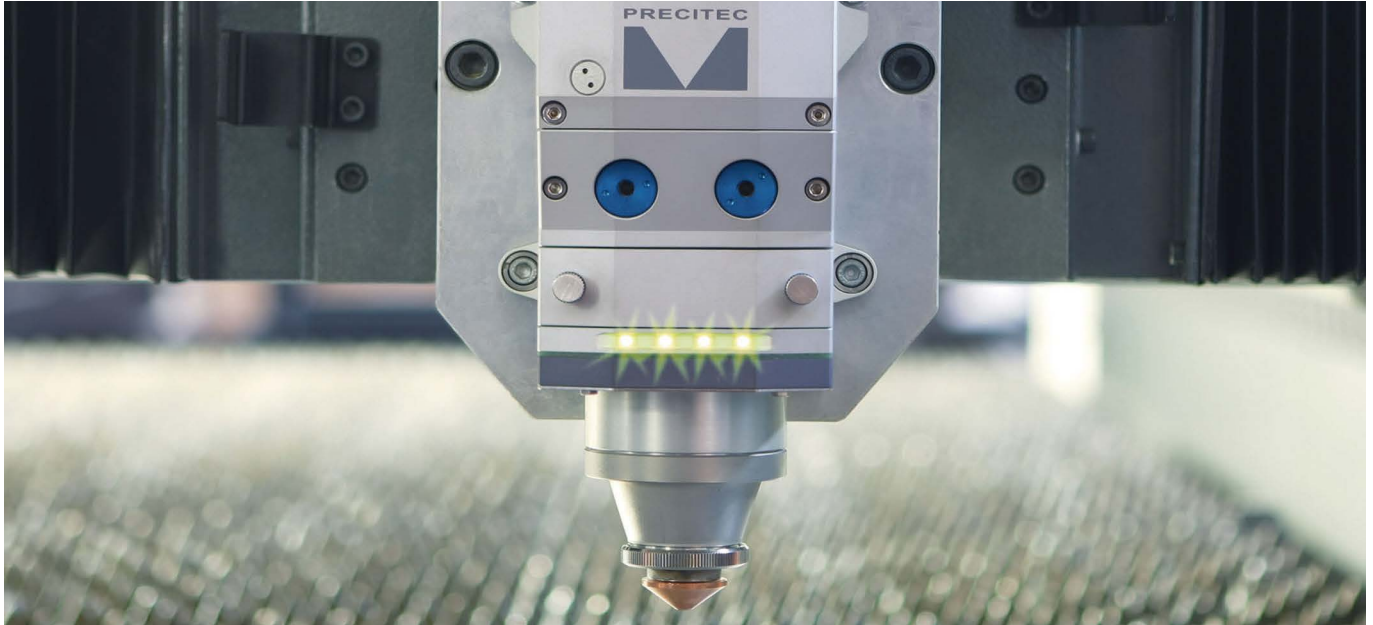
- Linear Motor Motion System
- Beckhoff CNC Controller
- Dust Collection Unit
- Additional Operator Glasses
- Sheet loading & unloading systems
- Automation & Storage systems
- Up to 12 kW IPG laser light sources
- Auto nozzle cleaning and calibration
- Standard fume extraction system
- Parts debris conveyor
- Lantek Nesting system
- CE Compliance with light guards & full enclosure as standard

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CUTTING HEAD

- The laser beam is delivered to the cutting head by fiber optic cable.
- The fiber optic cable is fixed to the input of cutting head.
- The laser is delivered to the focusing unit after being aligned in the collimator.
- The laser beam is set to desired focus using the lenses in the focusing unit.
- The protection glass protects the lenses from the particles which are caused by the cutting operation.
- The sensor insert is part of the elevation control system and helps to adjust the distance between material and cutting head.
- Elevation control is checked with the most precise sensors in the market. This helps to produce better cuts.
- The main function of the ceramic is to protect the cutting head.
- The nozzle is used to control the assist gases. It is also a part of the capacitive control system.



PERFECT CUT EXCELLENT SPEED HIGH PERFORMANCE

Beckhoff Servo Motor:

Is a unique machine having ultra low energy consumption and very fast cutting capability with minimum maintenance cost.



The fiber laser adds faster cutting speeds, the ability to cut a wide-variety of material types and reduced operational costs which add to a company's profit margin.



It has two dynamic tables allowing continuously production while processing goes on. The operator collects cut parts and loads the next material for processing. Fully automated loading – unloading systems.



The integrated design, which combines the fiber laser generator and chiller with the machine frame, allows for shipment after factory testing without the need to disconnect these key components from the machine. Installation and start-up time is reduced from weeks to days compared to conventional laser cutting machine designs.

LASER SOURCE

The ytterbium laser light is created inside the laser unit. Excitation is performed by laser diodes enabling high efficiency with low costs. Laser light created at the resonator is transferred to the cutting head by a fiberoptic cable without loss of power or quality. This provides a high beam quality appropriate for metal cutting.

The Power range of resonator source is between 500W and 6 kW. As the wattage increases so does the cutting speed and capacity respectively.

Fiber Lasers are inherently made for maintenance free production. The importance is sustainable diode life lasting approximately 100,000 hours.

In any defective situation, part changing is easy because modules are designed for plug-n-play.



CHILLER UNIT

The chiller unit cools the laser source, the linear motors, and collimation unit: inside the cutting head.

EXTRACTION UNIT

It provides a convenient working area by absorbing little particles and smokes occur while in production. It automatically works once the cutting starts.

The suction cells open actively according to the cutting heads position. This provides accurate absorption.



HIGH PRECISION DRIVE SYSTEM CUTTING TABLE

The Wittenstein high precision helical gear rack and pinion system uses precision planetary and servo-worm reducers. Our special design eliminates any noticeable backlash variance. The rack used in these systems is also hardened & precision ground.



The dual cutting table system is designed for increasing your workflow and reducing time spent on placing and removing materials. Four hydraulic cylinders raise and lower the cutting table to position the material while loading and unloading the machine. Cutting table exchange speed can be adjusted according to thickness of materials.



DUST-COLLECTION FUNCTION

An automatic flap opens and closes according to the movement of the processing head, offering on-the-spot dust collection during processing. It also allows for acid smells or fumes created during cutting to be removed from your shop environment. Automatic Zoned fume extraction is standard on all ACCURL Fiber Lasers



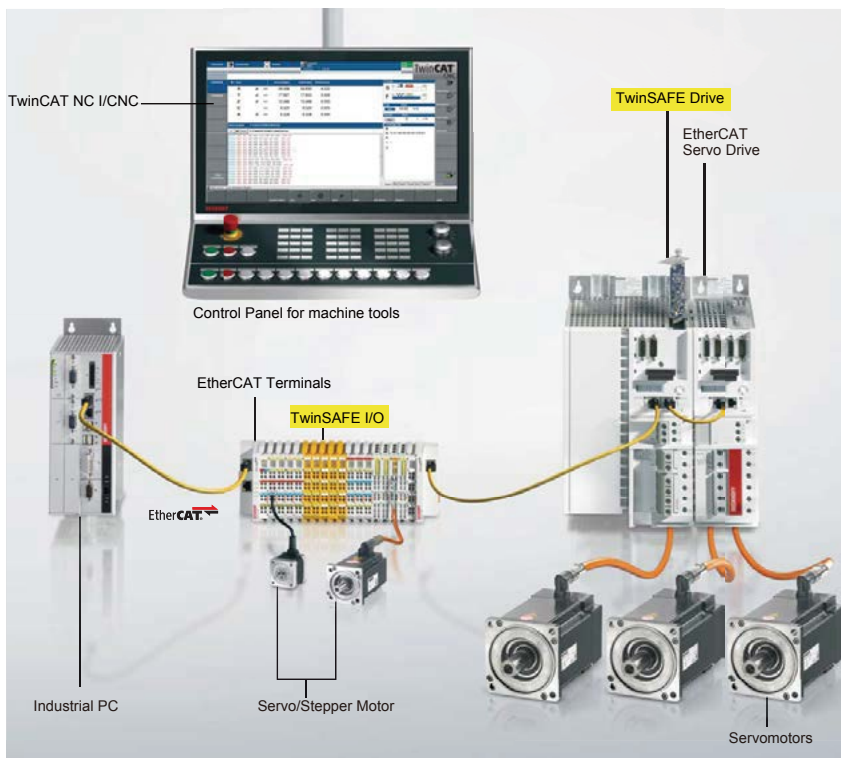
CONVEYOR SYSTEM

A special hard steel construction conveyor system, standard on our machines, is located under the workspace. The conveyor removes slag and small parts during the cutting process. The operator can choose the movement direction of the conveyor.



CONTROL & SOFTWARE

The ACCURL Fiber Laser is controlled with a Beckhoff CNC control unit which provides unprecedented control of the cutting process. The control panel features an alphanumeric keyboard, PLC keys on the sides, touch screen keyboard and USB ports. The memory and storage can be increased based on manufacturing demands while the open CNC program, with a Windows based operating system, makes data sharing easy with other computers. A 15" TFT LCD screen ensures that even in poor lighting you have optimal addressability and contrast.



The CP6242 Panel PCs are available with a choice of Intel® processors. The CP6242 Panel PCs can be equipped with a CFast card and a 2½-inch hard disk or SSD. Units containing the more powerful Intel® Core™ i3/i5/i7 processors feature a fan cartridge with speed-controlled fans supported by dual ball bearings. In front of the fan cartridge a 2 cm space is required for ventilation. In each configuration the Panel PCs of this series are approved for ambient temperatures between 32 and 131°F. Due to its two independent Ethernet interfaces the CP6242 is ideally suited as a compact central processing unit for an EtherCAT control system. A free Mini PCL slot enables different fieldbus cards or a third, independent fieldbus cards or a third, independent Ethernet interface to be used. ACCURL for fail-safe data storage can also be plugged into the Mini PCI slot.

ACCURL Fiber Laser using software Radprofile Cut Cad / Cam with its own postprocessor.

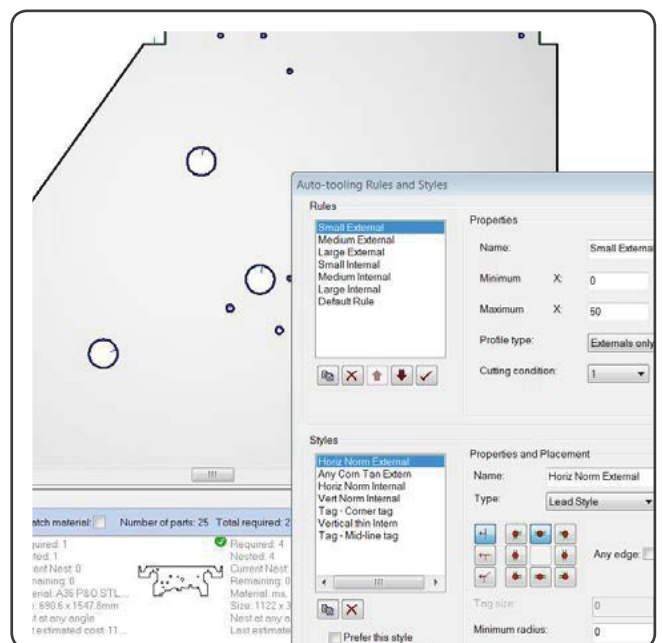
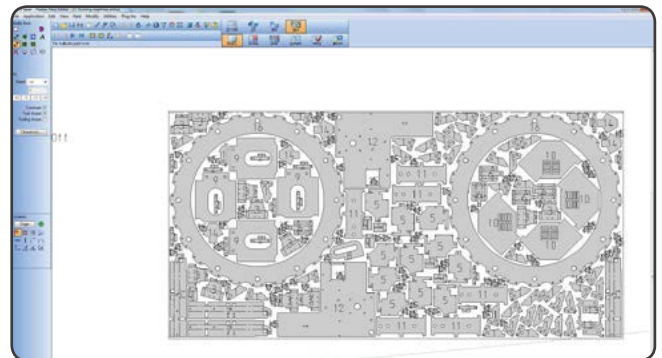
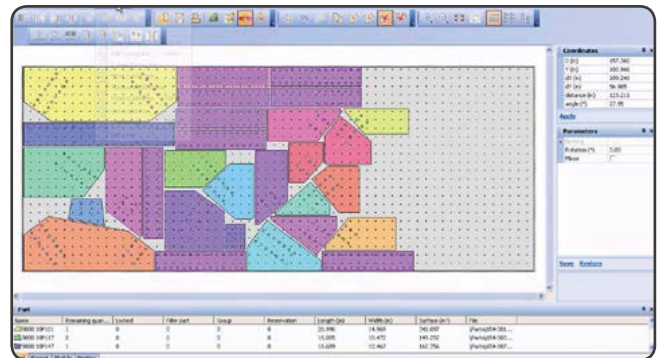
Features like auto nesting and machining, calculating the time, micro-joint, total cut and more allow ease of cutting.

All data for cutting is installed in the technological Radan charts. This program is designed for nesting and machining and is installed directly on the CNC, without any adjustment to the cutting parameters.

Radan is a fast, modern programming application designed to assist in transferring data from CAD to NC code. If Radan is unable to cut a hole smaller than (0.5mm by the thickness of the material), it will be marked automatically.

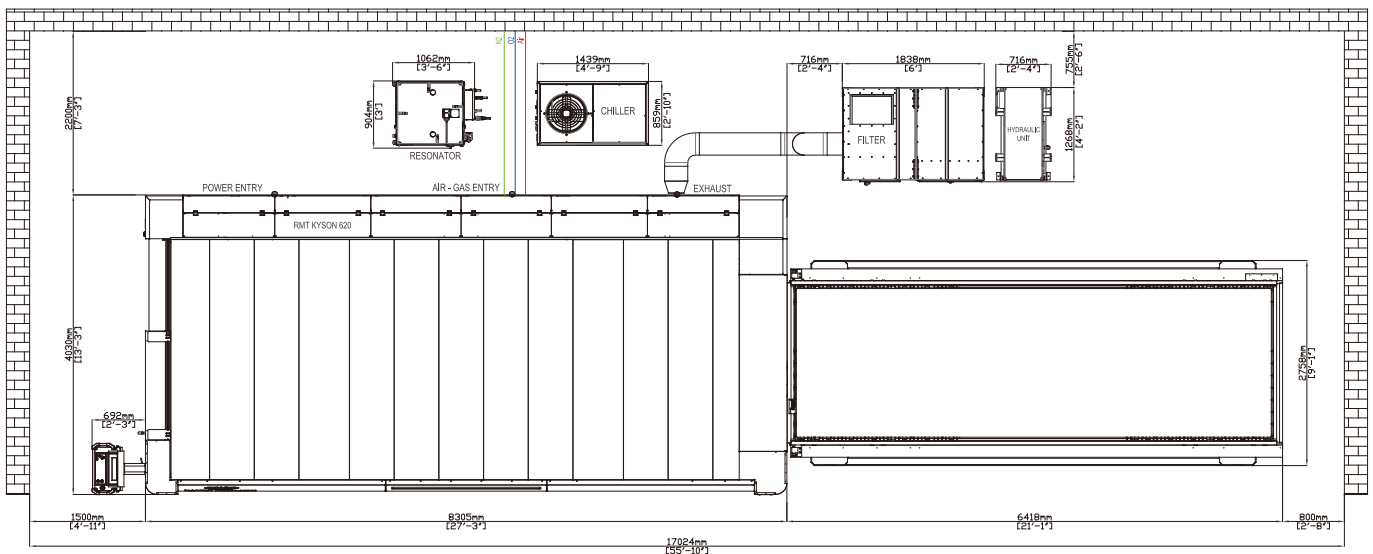
radan

- Preparing a normal cut
- Cutting with pre-piercing
- Sheet metal clearances
- Clearances between parts
- Preparing common cut
- Edit cutting speeds
- Adding new material to the list
- Using remnant option (saving excess parts of the sheet)
- Marking
- Giving radius at the corners
- Modifying corners to 90 degrees
- Defining cutting technology (cut1, cut2)
- Giving micro joint for nested parts
- Changing the length of the entrance properties
- Reporting writings with marking property
- Change cutting direction
- Scale dimensioning
- Combining the intermittent lines
- Film burning for covered stainless steel
- Cut 1, cut 2, cut 3, cut 4 and small hole property changing
- Edge clearances of the unit sheet
- Editing the automatic machining option
- Marking speed
- Defining cutting direction while doing automatic contour
- Adjusting of sheet remnant
- No cutting
- Change radius



SPECIFICATIONS

TECHNICAL FEATURES(ECO-FIBER)		ECO-FIBER-3015	ECO-FIBER-3015	ECO-FIBER-3015	ECO-FIBER-3015	ECO-FIBER-4020	ECO-FIBER-4020
RESONATOR	Watt	YLR 1000	YLR 1500	YLS 2000	YLS 3000	YLS 4000	YLS 6000
POWER RANGE	%	10-105	10-105	10-105	10-105	10-105	10-105
POWER STABILITY	%	0.5	0.5	1-2	1-2	1-2	1-2
PULSE FREQUENCY RANGE	kHz	5	5	5	5	5	5
LASER WAVE LENGTH	nm	1070 ± 5	1070 ± 5	1070 ± 5	1070 ± 5	1070 ± 5	1070 ± 5
OUTPUT FIBER CORE DIAMETER	µm	100	100	100	100	100	100
EXCITATION	0	Laser diode	Laser diode	Laser diode	Laser diode	Laser diode	Laser diode
COOLING WATER FLOW RATE	l/min	8	8	10	20	20	40
CUTTING CAPACITY (Maximum)							
MILD STEEL	mm	10	12	16	20	25	30
STAINLESS STEEL	mm	4	6	8	10	12	16
ALUMINIUM	mm	3	4	8	8	10	12
COPPER	mm	2	3	6	6	6	8
BRASS	mm	2	3	6	6	6	8
MAXIMUM WORKSHEET DIMENSIONS	mm	3000×1500	3000×1500	3000×1500	3000×1500	4000×2000	4000×2000
MAXIMUM BURDEN CAPACITY	kg	1500	1500	1500	1800	1800	1800
MACHINE AXES	-	4-Axes [X,Y,Z,U]	4-Axes [X,Y,Z,U]	4-Axes [X,Y,Z,U]	4-Axes [X,Y,Z,U]	4-Axes [X,Y,Z,U]	4-Axes [X,Y,Z,U]
AXIAL MOVEMENTS							
X, U AXES	mm	3050	3050	3050	3050	4050	4050
Y AXIS	mm	1530	1530	1530	1530	2050	2050
Z AXIS	mm	150	150	150	150	150	150
ACCELERATIONS							
X, U AXES	G	2.5	2.5	2.5	2.5	2.5	2
Y AXIS	G	2.5	2.5	2.5	2.5	2.5	2
Z AXIS	G	2.5	2.5	2.5	2.5	2.5	2
MAXIMUM AXES VELOCITIES	m/min	170 (simultaneous) (X, Y single axis velocity 120m/min)	170 (simultaneous) (X, Y single axis velocity 120m/min)	170 (simultaneous) (X, Y single axis velocity 120m/min)	170 (simultaneous) (X, Y single axis velocity 120m/min)	170 (simultaneous) (X, Y single axis velocity 120m/min)	170 (simultaneous) (X, Y single axis velocity 120m/min)
POSITIONING ACCURACY	mm/m	± 0.03	± 0.03	± 0.03	± 0.03	± 0.03	± 0.03
REPETITION ACCURACY	mm	± 0.015	± 0.015	± 0.015	± 0.015	± 0.015	± 0.015
SHUTTLE TABLE (Automatic Loading - Unloading Unit)	palette	2 (35 sec)	2 (35 sec)	2 (35 sec)	2 (35 sec)	2 (35 sec)	2 (35 sec)
ASSIST GAS							
OXYGEN	-	0.3-12 Bar	0.3-12 Bar	0.3-12 Bar	0.3-12 Bar	0.3-12 Bar	0.3-12 Bar
NITROGEN	-	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar
DRY AIR	-	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar	0.5-25 Bar
CUTTING HEAD	-	PRECITEC	PRECITEC	PRECITEC	PRECITEC	PRECITEC	PRECITEC
CNC	-	PA8000	PA8000	Beckhoff CNC	Beckhoff CNC	Beckhoff CNC	Beckhoff CNC
CAD/CAM SOFTWARE	-	RADAN CAD/CAM	RADAN CAD/CAM	RADAN CAD/CAM	RADAN CAD/CAM	RADAN CAD/CAM	RADAN CAD/CAM
OPERATION VIA PANEL	-	15" display, alpha numeric keyboard	15" display, alpha numeric keyboard	15" display, alpha numeric keyboard	15" display, alpha numeric keyboard	15" display, alpha numeric keyboard	15" display, alpha numeric keyboard
TOTAL ELECTRIC POWER NECES SITY	kW	17	17	21	31	33.7	33.7
MACHINE DIMENSIONS (L x W x H)	mm	9190 X 3710 X 2200	9190 X 3710 X 2200	9190 X 3710 X 2200	9190 X 3710 X 2200	10150x4250x2200	10150x4250x2200
MACHINE WEIGHT	kg	11200	11200	11200	11200	12950	12950



* Different diameter fiber cables are available.

* Due to ongoing product development, ACCURL reserves the right to modify any technical specifications and dimensions

* Alternate Optic Configurations: Cutting Capacity may vary depending on optic system settings. Working capacities may be higher or lower depending on the configuration.

* Conservative cutting capacities may vary depending on optic system settings. Working capacities may be higher or lower depending on the configuration.

SINCE
1988

Sheet metal
working
machines



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ACCURL reserves the right to modify any specifications within this catalog without prior notice.

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