

ROBJET

CNC WATERJET
FIBER LASER
ROBOT SYSTEMS

CUTTING
TECHNOLOGIES

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COMPANY PROFILE



About Us

ROBJET started to operate in 2011, thanks to the experience of its professional staff, it has risen in a short time and has increased its engineer staff and machinery investments aiming to increase product development and manufacturing capabilities.

ROBJET, which has accelerated its work with its powerful staff and CNC turning and milling machines added to its facilities, is strengthened with Robotic Automation and CNC Cutting Products.

ROBJET manufactures and exports water jet pumps and CNC machining centers.. We provide production and service of spare parts with high quality and high know-how.



Vision

In every field of activity our principle is to be the leader in Turkey. Constantly evolving and developing with technological innovations, producing products of high quality that meets the expectations of our customers, adding value to customers and employees allowing their satisfaction, the development of society and the country to become a global company in the value-added economy.



Mission

With our effective, market and customer-oriented work and the systems it develops with a strong and expert team ready to serve in every field of the industry, project - based works, professional system solutions for improvement and the production of applications that will support R & D studies, and technological in robot and automation systems To add value to its customers and employees by constantly following innovations.

COMPANY PROFILE



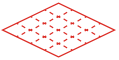
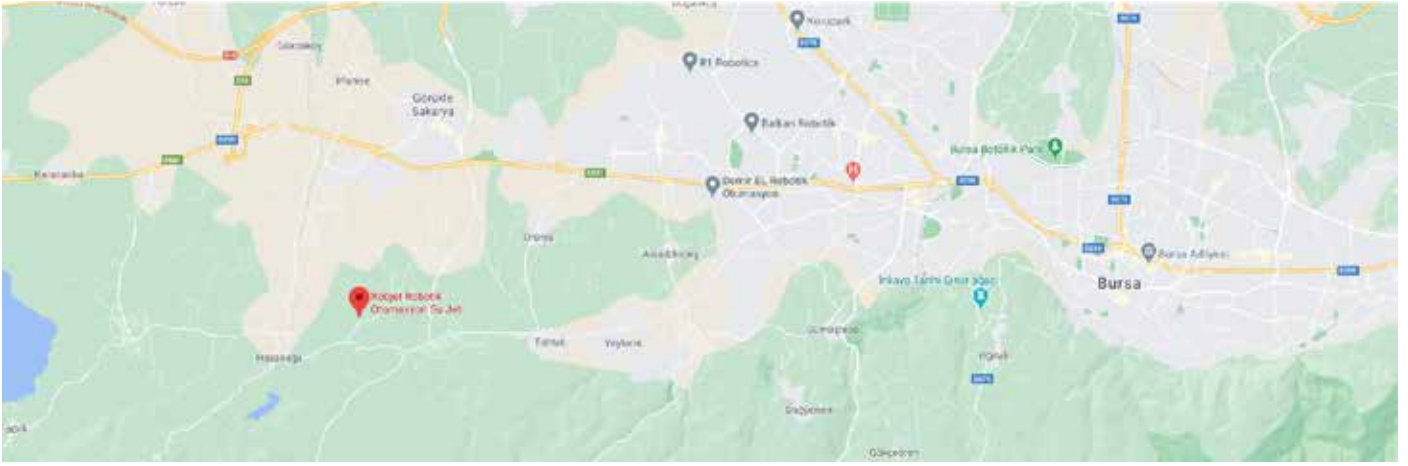
Location

Kayapa OSB, Sarı Cd., 16315 Nilüfer/Bursa TURKEY

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info@robjet.com.tr

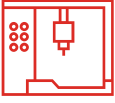


Area



Plant Size: 2000 sq. meter closed area

COMPANY PROFILE



Production Facilities



Capabilities:



VICTOR V-P106 / CNC
Machining Center



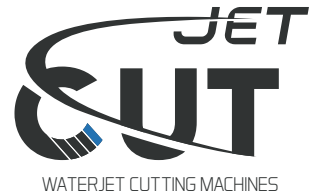
TAKISAWA EX308 / C Axis
CNC Lathe



TAKISAWA NEX-108M / Y
Axis CNC Lathe

ROBJET 3 AXIS WATERJET CNC

CUTJET-W3



General Information

The CUTJET-W3 is a straightforward 2D quality waterjet cutting system for cutting many materials such as glass, marble, granite, metal. Due to high-pressure abrasive cutting and being a cold process, problems such as burning, droplets, deformation caused by thermal reasons will be prevented.

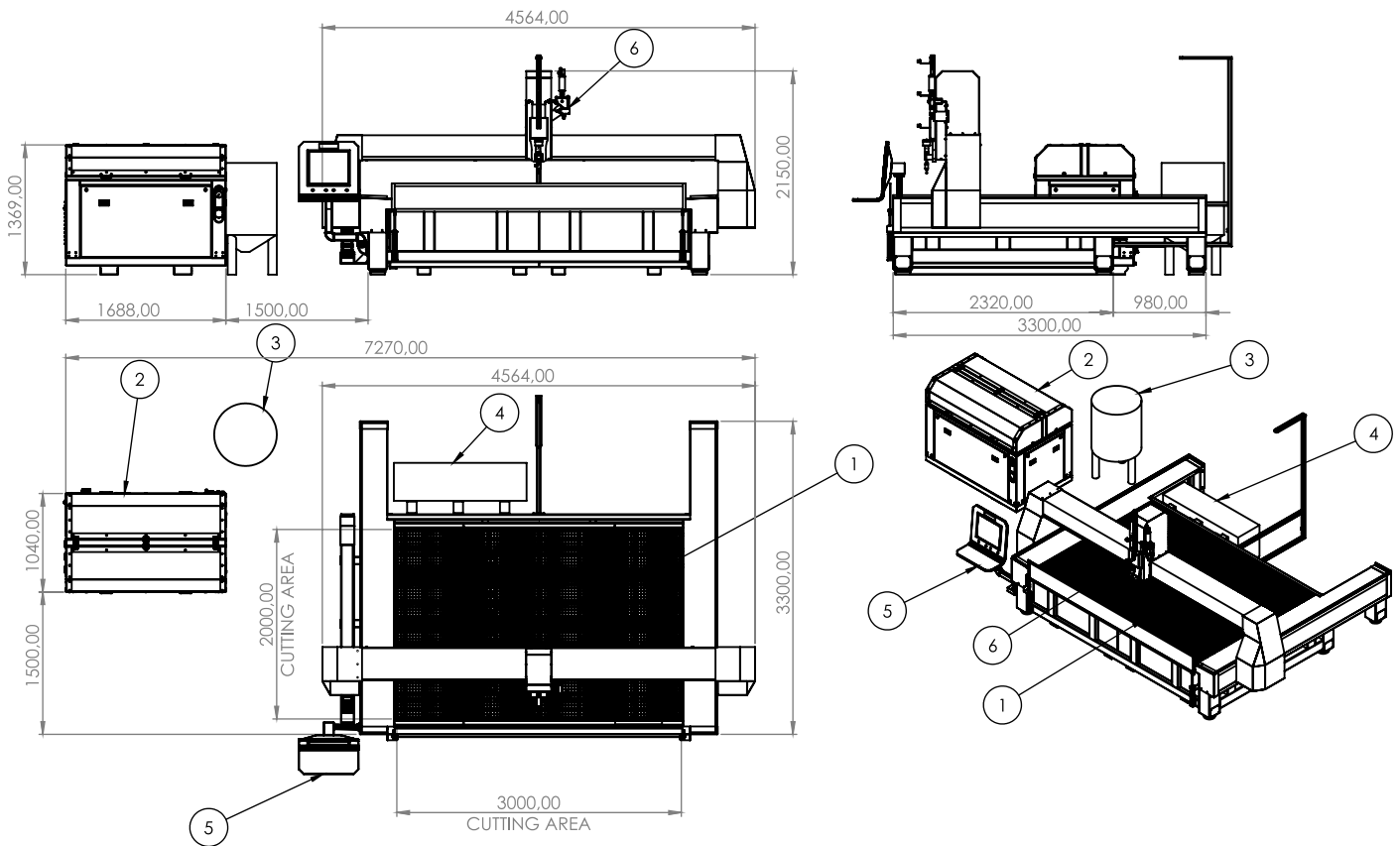
Properties

- Our system is a rack gear drive system.
- In the Z-Axis, a screw shaft is used for motion transmission and a heavy-duty ball circulating trolley bed mechanism is used for cushioning.
- Protection bellows, rectangular cross-section, completely closed form. It is impossible for water and abrasive to reach the bearing, drive element, motors, and electrical equipment.
- All protection sheets and water tanks are stainless steel.
- The abrasive dosing unit is stepper motor-driven and insulated against water and moisture.
- The main chassis is made resistant to water and humidity by going through the stages of sandblasting, epoxy priming, and epoxy paint.
- The machine body is manufactured on a steel chassis machined body, with aluminum construction machined bridge axis structure. In this way, by preventing vibration that occurs in high-accelerated movements, precision cutting can be done.

ROBJET 3 AXIS WATERJET CNC

CUTJET-W3

Machine Features



ROBJET CUTJET-W3

- 1 Machine Body - Cutting Table
- 2 High-Pressure Pump
- 3 Abrasive Hopper Sand Barrel
- 4 Electric Panel
- 5 Control Unit
- 6 Abrasive Dosing Unit(Feeder)

ROBJET 3 AXIS WATERJET CNC

CUTJET-W3

Technical Information

Work Envelope	CUTJET-W3-3020		CUTJET-W3-4020	
X Cutting Travel	3000	mm	4000	mm
Y Cutting Travel	2000	mm	2000	mm
Z-Axis Travel	200	mm	200	mm
Table Size	3000x2000	mm	4000x2000	mm

Dynamic Specs.

X Axis Max. Speed	60	m/min.
Y Axis Max. Speed	60	m/min.
X Axis Max. Acceleration	10	m/s ²
Y Axis Max. Acceleration	10	m/s ²
Max Cutting Speed	2	m/min.

Accuracy

Positioning Accuracy ±	0,05	mm
Repetition Accuracy ±	0,03	mm

Controller Unit

CNC	Fagor / Beckhoff
Panel	11" / 21"
Power Source	380VAC 50hz 3 Faz

CUTJET-W3

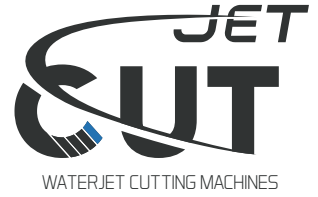
Machine Dimensions (mm)	1000x2000	1500x3000	1600x2600	2000x4000	2000x6000	2500x8000
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We produce CNC waterjet cutting machines which are using 3 axis abrasive in special dimensions and pure water.



ROBJET 5 AXIS WATERJET CNC

CUTJET-W5



General Information

The CUTJET-W5 is a cutting bench used for cutting many materials such as glass, marble, granite, metal, plexiglass. Due to high-pressure abrasive cutting and being a cold process, problems such as burning, droplets, deformation caused by thermal reasons will be prevented. The 5-axis cutting head provides our customers with high-quality cutting opportunities between 0° and 60°.

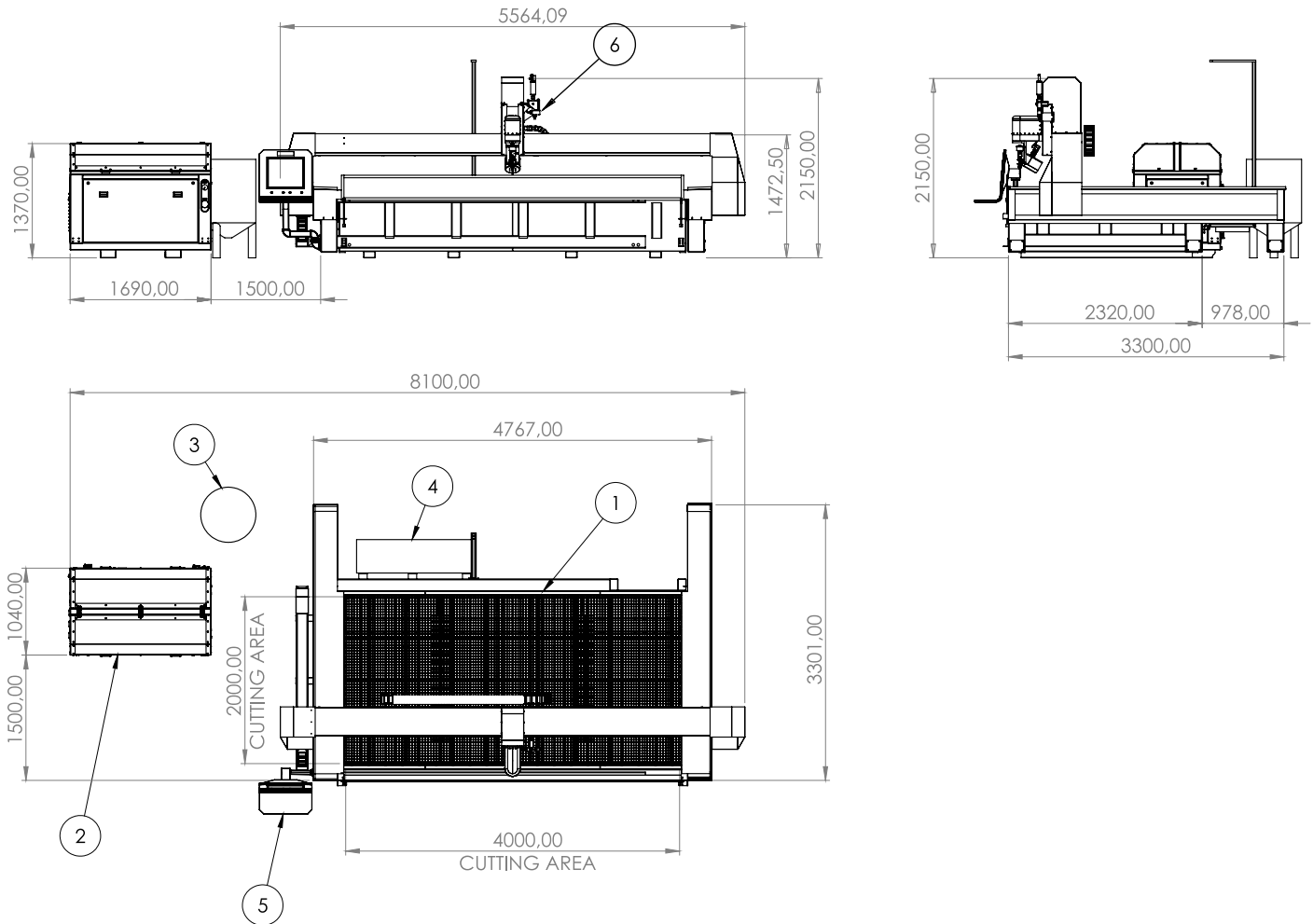
Properties

- Our system is a rack gear drive system.
- In the Z-Axis, a screw shaft is used for motion transmission and a heavy-duty ball circulating trolley bed mechanism is used for cushioning.
- Protection bellows, rectangular cross-section, completely closed form. It is impossible for water and abrasive to reach the bearing, drive element, motors, and electrical equipment.
- All protection sheets and water tanks are stainless steel.
- The abrasive dosing unit is stepper motor-driven and insulated against water and moisture.
- The main chassis is made resistant to water and humidity by going through the stages of sandblasting, epoxy priming, and epoxy paint.
- The machine body is manufactured on a steel chassis machined body, with aluminum construction machined bridge axis structure. In this way, by preventing vibration that occurs in high-accelerated movements, precision cutting can be done.
- High precision bevel cutting.

ROBJET 5 AXIS WATERJET CNC

CUTJET-W5

Machine Features



ROBJET CUTJET-W5

- 1 Machine Body - Cutting Table
- 2 High-Pressure Pump
- 3 Abrasive Hopper Sand Barrel
- 4 Electric Panel
- 5 Control Unit
- 6 Abrasive Dosing Unit(Feeder)

ROBJET 5 AXIS WATERJET CNC

CUTJET-W5

Technical Information

Work Envelope	CUTJET-W5-3020		CUTJET-W5-4020	
X Cutting Travel	3000	mm	4000	mm
Y Cutting Travel	2000	mm	2000	mm
Z-Axis Travel	200	mm	200	mm
Table Size	3000x2000	mm	4000x2000	mm

Dynamic Specs.

X Axis Max. Speed	60	m/min.
Y Axis Max. Speed	60	m/min.
X Axis Max. Acceleration	10	m/s ²
Y Axis Max. Acceleration	10	m/s ²
Max Cutting Speed	2	m/min.

Accuracy

Positioning Accuracy ±	0,05	mm
Repetition Accuracy ±	0,03	mm

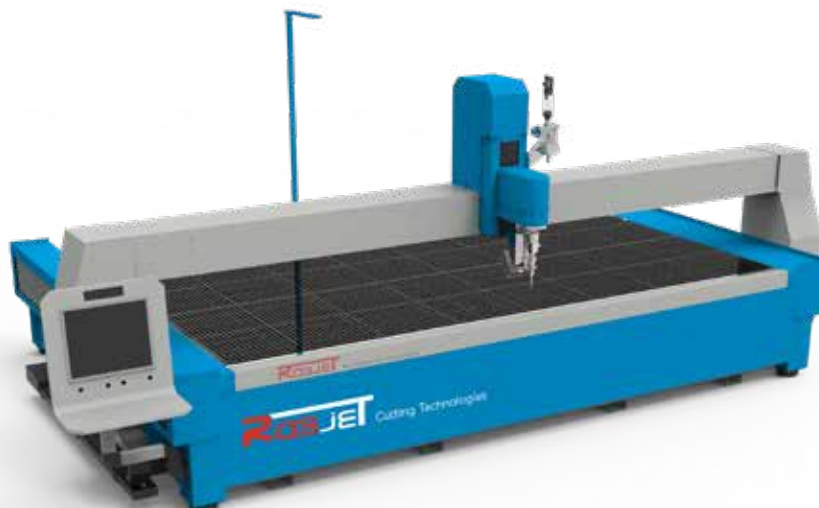
Controller Unit

CNC	Fagor / Beckhoff
Panel	11" / 21"
Power Source	380VAC 50hz 3 Faz

CUTJET-W5

Machine Dimensions (mm)	1000x2000	1500x3000	1600x2600	2000x4000	2000x6000	2500x8000
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We produce CNC waterjet cutting machines which are using 3 axis abrasive in special dimensions and pure water.



ROBJET 3&5 AXIS WATERJET CNC

CUTJET-W3 & W5

Machine Equipments

High-Pressure Pump

AQRO S50C+ high-pressure pump provides fast, quality, and smooth cutting with 3800 bar pressure.

High-Pressure Pump

Pressure Range (Bar)	1.000-3.800
Intensifier Design	SLIV / SLV
Max Flow Rate at Max. Pressure	L / min 3,8
Motor Rating (Kw / Hp)	37 / 50



Cutjet Bevel Tool

The 5-axis cutting head provides our customers with high-quality cutting opportunities between 0° and 60°.



Cutjet Cutting Head

We use abrasive and pure water cutting heads in our 3 and 5 axis machines and special robotic systems.



Abrasive Dosing Unit(Feeder)

The abrasive feeder is located on Z-axis. The sand in the abrasive sand tank passes through a certain strainer and the cutting process is carried out. According to material type and thickness, the sand flow rate is calibrated manually or automatically from Cnc Control Unit. It can be increased up to a minimum of 60gr/min and a maximum of 600 gr/min.



ROBJET 3&5 AXIS WATERJET CNC

CUTJET-W3 & W5

Abrasive Hopper Sand Barrel

Sand barrel helps abrasive sand to be transported to the sand mixer with the help of compressed air. With the conditioner on it, the air is adjusted to 2 bar, at the same time it dehumidifies the air entering the sand tank. Abrasive sand tank max capacity is 200 lt.



Control Unit

Pre-cut parameters of standard materials (marble, ceramic, steel, stainless, aluminum, copper, composite, glass, brass, felt) in certain thicknesses record in the system by ROBJET instructors. Considering these reference values, the operator improves the cutting quality with small adjustments according to the changing sheet qualities.

- RTSP Software Specification
- Manual or automatic set calibration
- Backward operating feature with retracing
- Parametric programming
- Z-Axis Offset with Handwheel
- Laser Height Control



Software

Robjet gives IGEMS or LANTEK EXPERT programs as a gift with purchased machines. You can nest lots of drawing file types, assign inputs and outputs automatically and prepare cutting ready projects.

lantek **IGEMS**



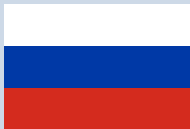
Global Sales



• **Sweden**
Global sales partner
of ROBJET



• **Germany**



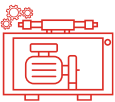
• **Russia**



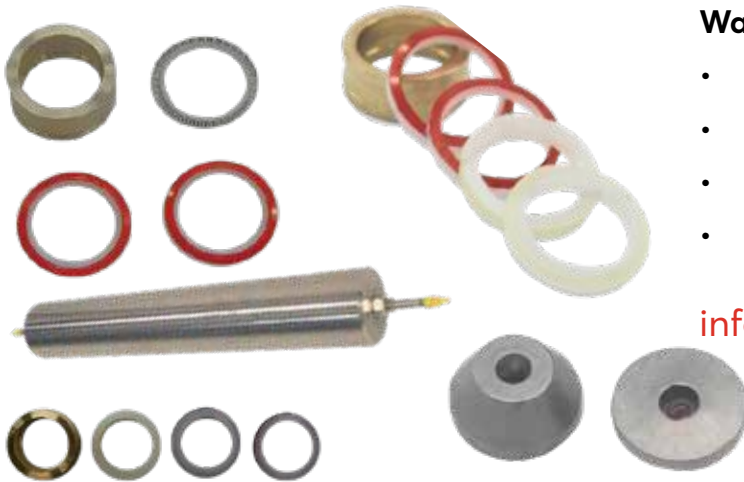
• **Italy**



• **Montenegro**



Spare Parts Sales and Services

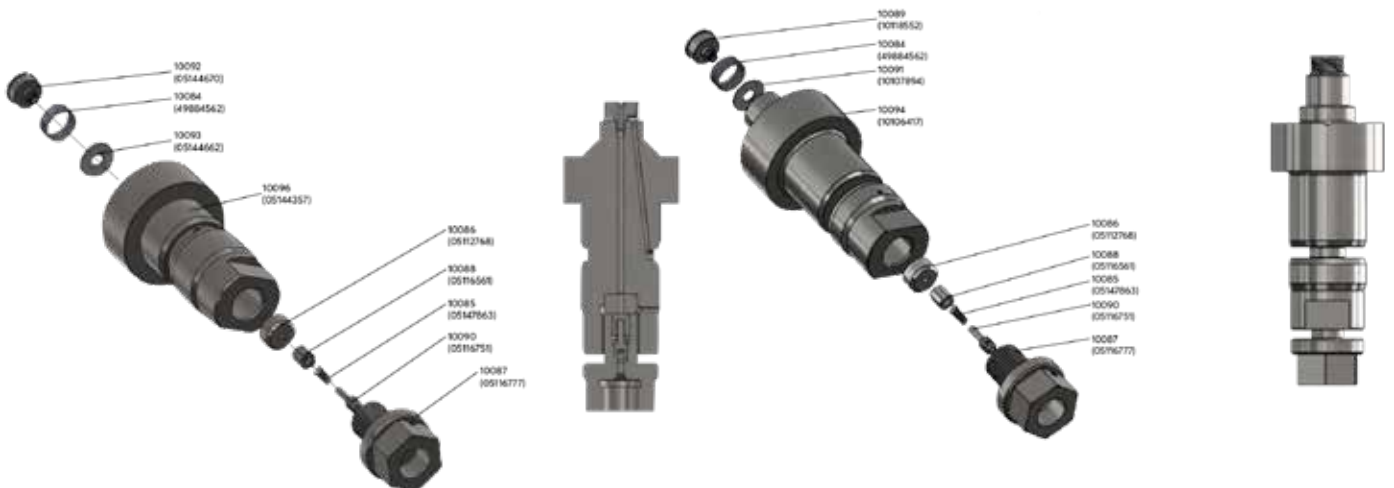


Water Jet Spare Part Manufacturing Range:

- Aqro
- KMT
- Flow
- BFT



info@robjet.com



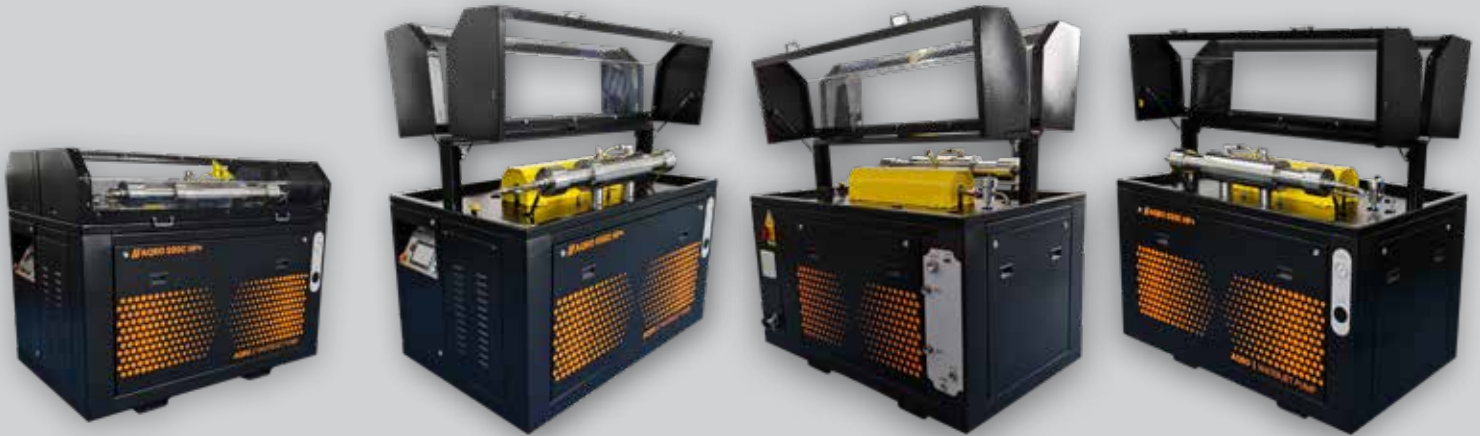
AQRO S50C HP PLUS

WATER JET PUMP



AQRO S50C HP+

ROBJET



40 HP	AQRO	3800	bar	3,2 L/min
50 HP	AQRO	4100	bar	3,8 L/min
100 HP	AQRO	4100	bar	7,6 L/min
60 HP	AQRO	6000	bar	2,8 L/min
50 HP flow tip	ROBJET	3800	bar	3,8 L/min
90 HP	AQRO	6000	bar	3,9 L/min

TECNICAL SPECS.

Descriptions	Unit	AQRO S40C	AQRO S50C	AQRO S125C
Motor Rating	(Kw / Hp)	30 / 40	37 / 50	93 / 125
Pressure Range	(Bar)	800-4.100	800-4.100	1.000-6.000
Max Flow Rate at Max. Pressure	L / min	3,2	3,8	6,0
Length	mm	1.700	1.700	1.700
Width	mm	1.040	1.040	1.040
Height	mm	1.400	1.400	1.400

AQRO S50C HP PLUS

SU JETI POMPASI

Descriptions	Unit	AQRO S40C	AQRO S50C	AQRO S125C
Control & Electric				
Control System	PLC		Siemens	
User Control System			7" Touchscreen	
Number of Display Language			10	
Motor start			Soft Starter Siemens	
Nom Current at 400V / 50hz	Amp		76	
Fuze Size at 400 V / 50Hz	Amp		100 (80)	

Pneumatic, Hydraulic & Cooling Circuit				
Hydraulic Tank Capacity	L		108	
Oil Level & Temp Control			Sensor	
Oil / Water Heat Exchanger	Plate Cooler		Std	
Oil / Air Cooler			Option	

Standard Features & Options				
Redundant Intensifier			Option	
High Pressure Transducer			Option	
Dual Pressure Setting			Std	
Proportional Control			Std	
Cutting Water Inlet Shut-off Valve			Std	
Safety Dump Valve			Std	
Adjustable Booster Pump			Std	
Oil Drip Pan			Std	
Control Cabinet			Std	
Electrical Control			Std	
Doors / Side Covers			Std	
Top Cover			Std	

Others				
Labels According to EC - Machinery Directive			CE Mark	

Max. Number of Orifice at Max. Pressure				
0,08 / 0,10 / 0,12 / 0,15	mm	16/14/8/6	16/14/8/6	16/14/8/6
0,17	mm	4	4	4
0,20	mm	3	3	3
0,25	mm	2	2	2
0,35	mm	1	1	1
0,40	mm	1	1	1

Min Pneumatic air supply pressure 5,9 Bar ,Max 6,5 Bar

The following applies to the pumps.

Cooler water flow 4-20 Liter/min. depending of inlet temperature of cooling water and operator pressurer

Technical data is subject to change without prior notice.

ROBJET 2D Open Laser Cutting Machine

CUTJET L3-1530-O



General Information

The CUTJET L3-1530-O Open Type Fiber Laser Cutting Machine is a "high speed" 2D cutting machine for cutting flat sheets (black sheet, aluminum, stainless). It works on the principle of "Flying Optics". This means; The cutting table on which the sheet is placed remains fixed, the cutting head moves in the X and Y directions and performs the cutting process. With this method, very high acceleration values are reached, and also with the direct encoder measuring system and precision racks, parts are cut with maximum precision.

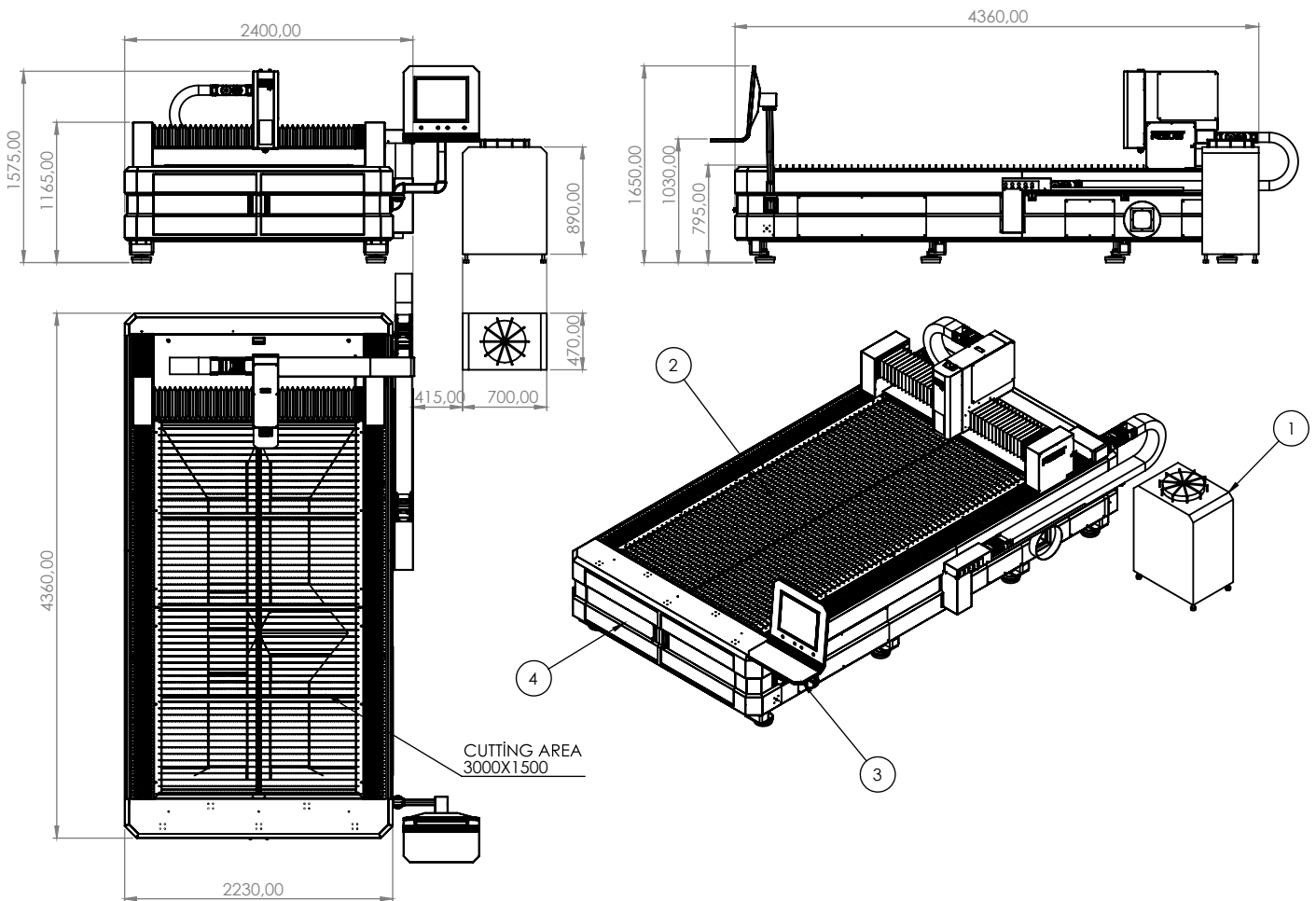
Properties

- All axes work through maintenance-free, dynamic, and high-performance AC servo motors.
- The machine body is manufactured on a steel chassis machined body, with aluminum construction machined bridge axis structure. In this way, by preventing vibration that occurs in high-accelerated movements, precision cutting can be done.
- The fumes generated during laser cutting are vacuumed or a multi-cell suction system is used to send them to the atmosphere.
- The operator can pick up the cut or wasted parts from the side pickers.

ROBJET 2D Open Laser Cutting Machine

CUTJET L3-1530-O

Machine Features



ROBJET CUTJET L3-1530-O Open Type Fiber Laser Machine

- 1 Cooler - Chiller
- 2 Machine Body - Cutting Table
- 3 Operator Panel
- 4 Electric Panel

ROBJET 2D Open Laser Cutting Machine

CUTJET L3-1530-O

Technical Information

Cutting Axes

X Axis Travel	3050	mm
Y Axis Travel	1520	mm
Z Axis Travel	150	mm
Max. Sheet Dimensions	3048x1524	mm
Max. Sheet Weight	200	kg/m ²

Dynamic

Max X Axis Speed	60	m/min.
Max Y Axis Speed	60	m/min.
Max Synchro Speed	60	m/min.
Max Acceleration X Axis	10	m/s ²
Max Acceleration Y Axis	10	m/s ²
Max Synchro Acceleration	15	m/s ²
Position Accuracy	±0,05	mm
Repeatability Accuracy	±0,03	mm

Controller Unit

CNC CYP CUT 2000 - EMPOWER

PC

Port

Expansion Slots

Screen 19" Touch Panel

Laser Cutting Head Raytools

Focus Length 150 mm / 125 mm

Focus Automatic

Laser Unit – Source (Raycus)

Product Code	RFL-1000C	RFL-2000C
Output Power (W)	1000W	2000W
Operation Mode	Continuous Wave Fiber Laser / Sürekli Dalga Formlu Fiber Lazer	
Polarization	Random	
Wavelength	1080 nm	
Output Power Stability	<%3	
Output Connector	QBH	
Power Adjustment Range (%)	10-100	
Modulation Frequency	50-50.000	
Beam Diameter	3±0.5(5.5±0.5 for RFL-QCS)	
Red Guide Laser Power	0,5-1	
Beam Quality	<1,3	

Material

	RFL-1000C	RFL-2000C
Construction Steels	10	16
Stainless Steel	4	6
Aluminum	4	6
Copper	2	4
Brass	4	5

ROBJET 2D Closed Laser Cutting Machine

CUTJET L3-1530-C



General Information

The Cutjet Closed Laser Cutting Cell is a "high-speed" 2D cutting machine used for cutting flat sheets (black sheet - aluminum - stainless). It works on the principle of "Flying Optics". This means; The cutting table on which the sheet is placed remains fixed, the cutting head moves in the X and Y directions and performs the cutting process. Thanks to this method, very high acceleration values are achieved and with the help of the direct encoder measuring system and precision racks, part cuttings are performed with maximum precision.

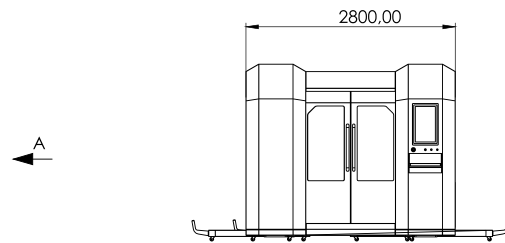
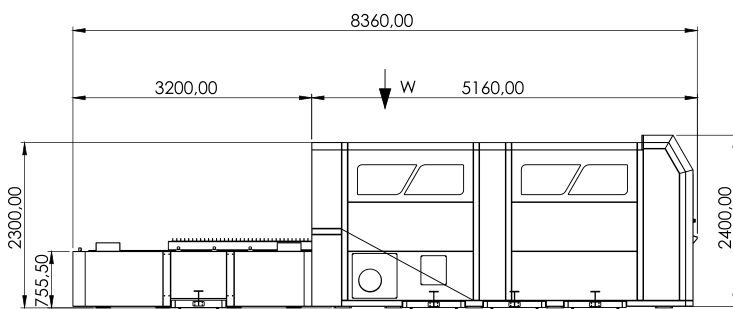
Properties

- Moving axes work via maintenance-free, dynamic and high-performance AC servo motors.
- The machine body is manufactured in the structure of the bridge axis with an aluminum construction machined on a steel chassis machined body. In this way, precision cutting can be done by preventing the vibration that occurs in high-accelerated movements.
- A multi-cell suction system is used to vacuum the smoke generated during laser cutting and send it to the dust collection filter or to the atmosphere. The cut or wasted parts that fall into the used part collection trolleys are collected from the side with the help of the operator.

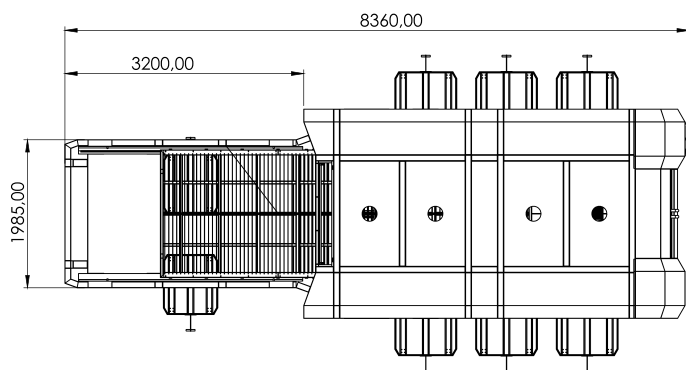
ROBJET 2D Closed Laser Cutting Machine

CUTJET L3-1530-C

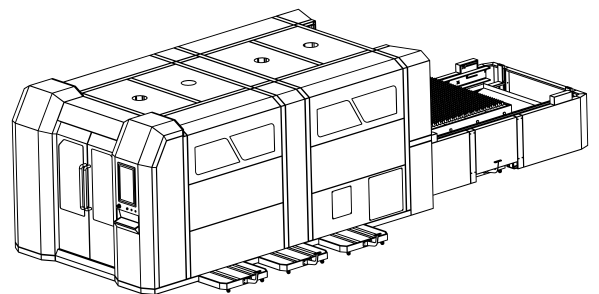
Machine Features



VIEW - A



VIEW - B



ROBJET 2D Closed Laser Cutting Machine

CUTJET L3-1530-C

Technical Information

Cut Axes

X Axis	3050	mm
Y Axis	1520	mm
Z Axis	150	mm
Max. Sheet Dimensions	3048x1524	mm
Max Sheet Weight	200	kg/m ²

Dynamic

Max. Speed X Axis	60	m/min.
Max. Speed Y Axis	60	m/min.
Max. Speed Sync	60	m/min.
Max. Acceleration X Axis	10	m/s ²
Max. Acceleration Y Axis	10	m/s ²
Max. Acceleration Synchronous	15	m/s ²
Spatial Accuracy	±0,05	mm
Repeatability	±0,03	mm

Control Unit

CNC	CYPCUT 2000 - EMPOWER
PC	
Port	
Expansion Slots	
Screen	19" Touch Panel
Laser Cutting Head	Weihong / Raytools / WSX
Focus Length	150 mm / 125 mm
Focus	Automatic / Manual

Laser Unit - Rezenator (Raycus)

Product Code	RFL-500C	RFL-750C	RFL-1000C	RFL-1500C	RFL-2000C
Output Power (Nominal)W	500W	750W	1000W	1500W	2000W
Operation Mode	Continuous Wave Fiber Laser / Continuous Waveform Fiber Laser				
Polarization	Random				
Wavelength	1080 nm				
Output Power Instability	<%3				
Output Connection Options	QBH				
Output Power Setting (%)	10-100				
Modulation Frequency (Hz)	50-50.000				
Beam Diameter (mm)	3±0.5(5.5±0.5 for RFL-QCS)				
Red Guide Laser Power (mW)	0,5-1				
Luminance Quality (M2)	<1,3				

Material	RFL-500C	RFL-750C	RFL-1000C	RFL-1500C	RFL-2000C	RFL-4000C
Construction Steels	4	6	10	12	16	20
Stainless Steel	2	3	4	5	6	10
Aluminum (AlMg3)	2	3	4	5	6	12
Copper	1	1	2	3	4	6
Brass	2	3	4	4	5	8

ROBJET 2D Laser Cutting Machine

Machine Equipment Introduction

Laser Source

The laser beams to be used for sheet metal cutting are produced in the laser unit. The beams produced in the modules of the laser unit are easily carried to the cutting head by fiber cable without any loss. The laser power supply has a structure that does not change the beam profile between 10% - 100% power levels of low-mode kilowatt class lasers. This feature allows the same laser to be used in both low and high-power operations.



The long-range stable beam diameter feature of the Raycus laser allows the use of long-focus lenses. This means a deeper processing area without damaging the lenses. Raycus lasers, which can be used at distances up to 100 meters, allow easy adaptation of different fiber diameters. In addition, fiber lasers are superior to other laser types in that they do not need mirrors, precision mirror adjustment, laser gas, and their light and small structure.

- Superior Beam quality
- Beam quality that can remain constant at different power levels
- Small focusing feature at long working distances.
- Maintenance-free operation
- Small size, easy to install
- Compact, robust, and easily adjustable.
- Diode life >100,000 hours

Laser Cutting Head

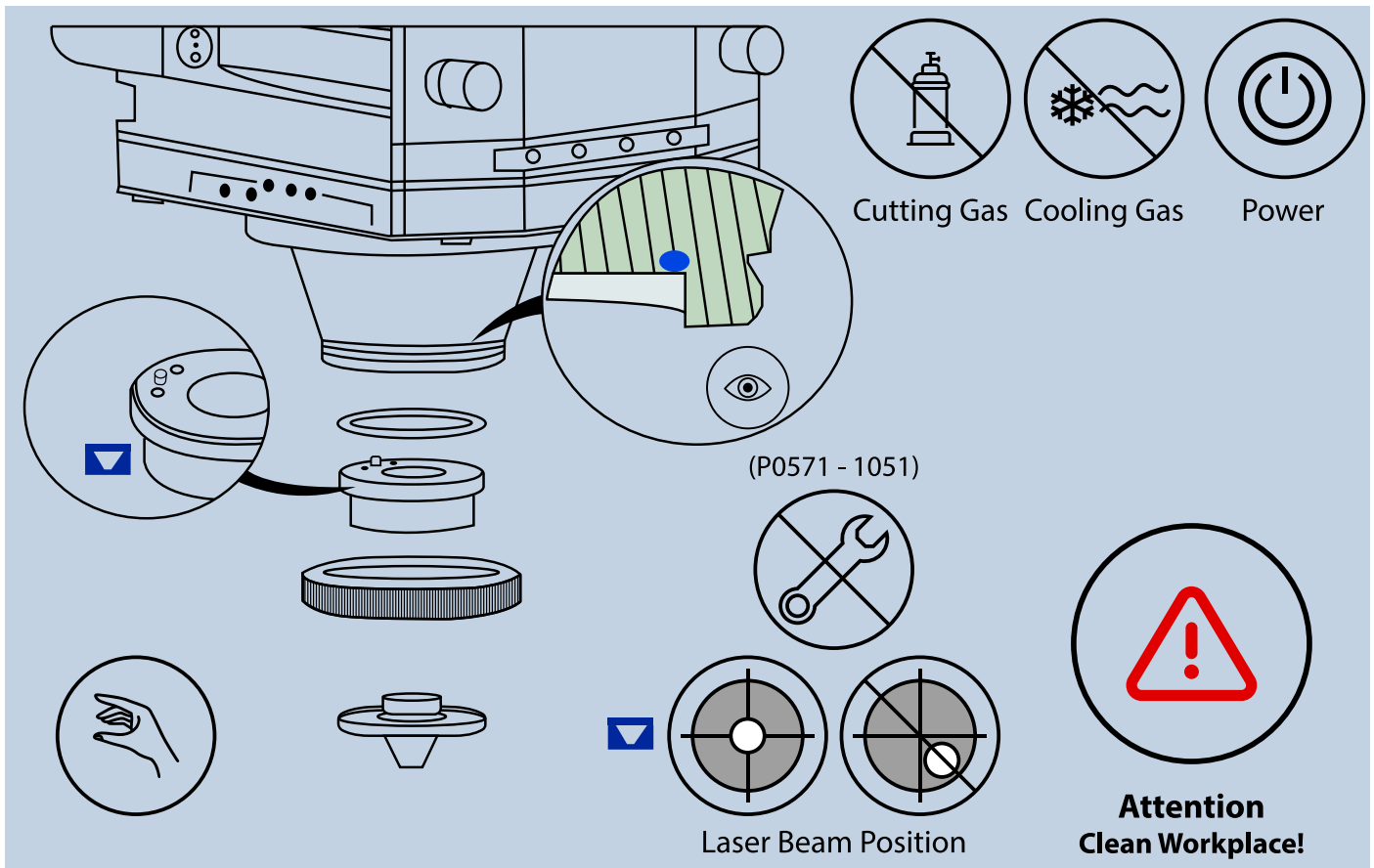
The beams produced in the laser unit are carried to the cutting head with a fiber cable. The cutting head focuses the beams received from the fiber cable to the machining surface.

There is a ceramic piece on the nozzle in order to prevent damage to the head in case of accidents such as the laser cutting head hitting the lifted or turned upside down cut sheets during cutting. In such unsolicited status situations, this part breaks and prevents the head from being damaged. When the ceramic piece is broken, it should be replaced with a new one as shown in the figure.



The capacitive sensor in the cutting head ensures a stable focus position by keeping the distance to the sheet steady. The capacitive sensor system keeps the distance between the nozzle and the sheet steady by quick control of the Z-axis. The laser head is water-cooled so it's not affected by thermal changes. With the standard F 100 mm cutting lens, the material types, and thicknesses in Table 1-05 are cut.

ROBJET 2D Laser Cutting Machine



Chiller

The chiller is the device that cools the optics in the cutting head of the laser source. It has a water-based cooling system.

Due to the double-circuit system, cooling water is sent to the optics and the laser source at different temperatures as they need it. The water cycle in the cooler works as a closed circuit. Pure water is used as cooling water. At temperatures below 0°C, up to %30 of the water tank can be filled with pure alcohol. (This operation can be applied down to -10°C)



ROBJET 2D Laser Cutting Machine

Machine Main Body

The machine is not equipped with a safety cabinet designed to protect the operator and personnel around the machine from laser radiation and mechanical moving parts. Occupational safety rules and operating rules must be followed for extra safety practices.



ROBJET 2D Laser Cutting Machine

Controller Unit

CYPCUT 2000 is a special CNC control unit developed for fiber laser cutting applications together with the PCU.

The pre-cut parameters of standard materials in certain thicknesses are entered into the system by ROBJET instructors. Considering these reference values, the operator improves the cutting quality with small adjustments according to the changing sheet qualities.



- Laser power is controlled by a function of path, speed, and movement
- Closed loop distance control is available
- Optional functions are available.
- 6 MB internal user memory and USB port available

Software

- Fully automatic cutting
- Advanced optimization
- Fast toolpath impact protection (tool path optimization to prevent damage by sheet deformation)
- Automatic lead point
- Cutting Direction (Supports cw or cww)
- Advanced corner treatments provide perfect corners and smooth cuts (Rounding, cooling, deceleration, cycles)
- True-type fonts (Text can be written or engraved on the part in any font supported by the operating system)
- Z-axis control (ping-pong, head-up, deep)

ROBJET 2D Laser Cutting Machine

Lubrication

Our machine has a full-automatic lubrication system. In this way, the maintenance time of the machine is reduced, and the hard-to-reach points are easily lubricated.

The central lubrication system works with the principle of increasing the pressure by the pneumatic pump with the reducer and distributing the oil to the lines through progressive distributors.

With the central lubrication system, linear cars in the X, Y, Z axes, ballscrew shaft nut, and bearing in the Z-axis, racks on the X and Y axis are automatically lubricated with different oil flow rates.



Security

The laser cutting system is equipped with safety elements. While these switches and sensors protect the operator from hazards, on the other hand, they protect the laser head and the machine from damage as a result of incorrect measurement programming of the system or collision of the laser cutting head and the part.

The existing diagnostic system also allows the operator to make necessary corrections while keeping the operator constantly informed about the system status. The steps to be taken after the warnings given by the CNC Control Unit are clearly displayed on the control screen. When working with the machine, occupational safety regulations must be fully complied with

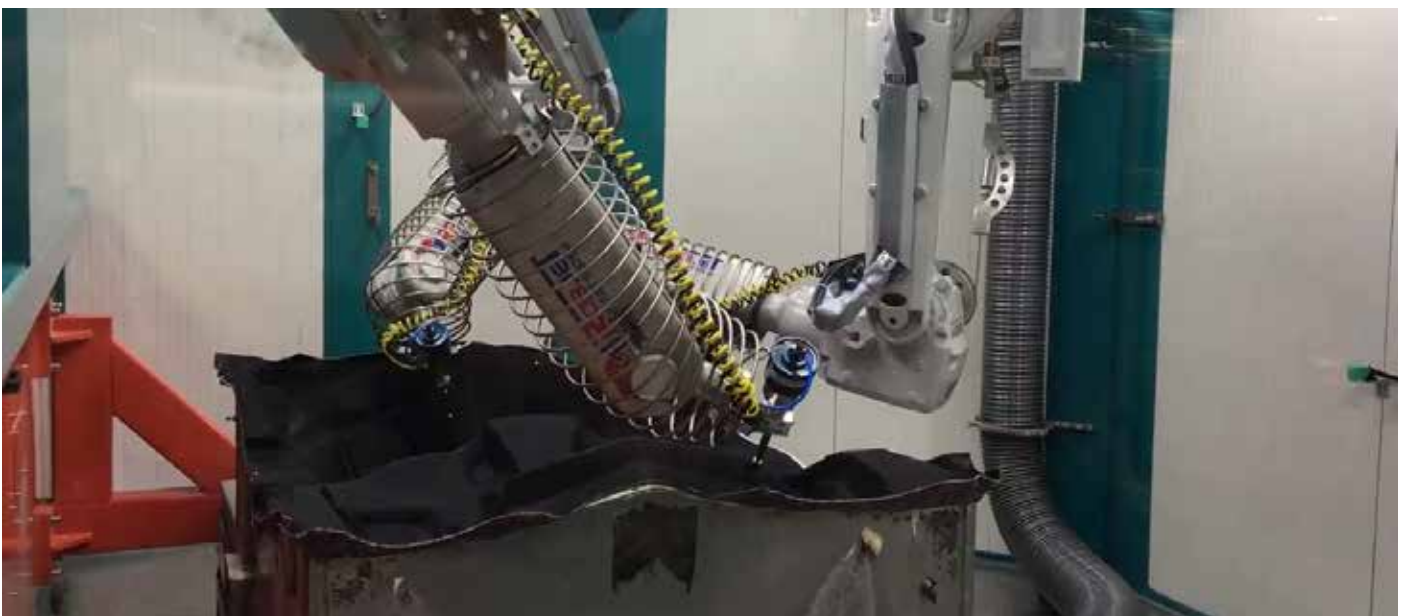
WATERJET CUTTING CELL

1 ROBOT



WATERJET CUTTING CELL

3 ROBOTS





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