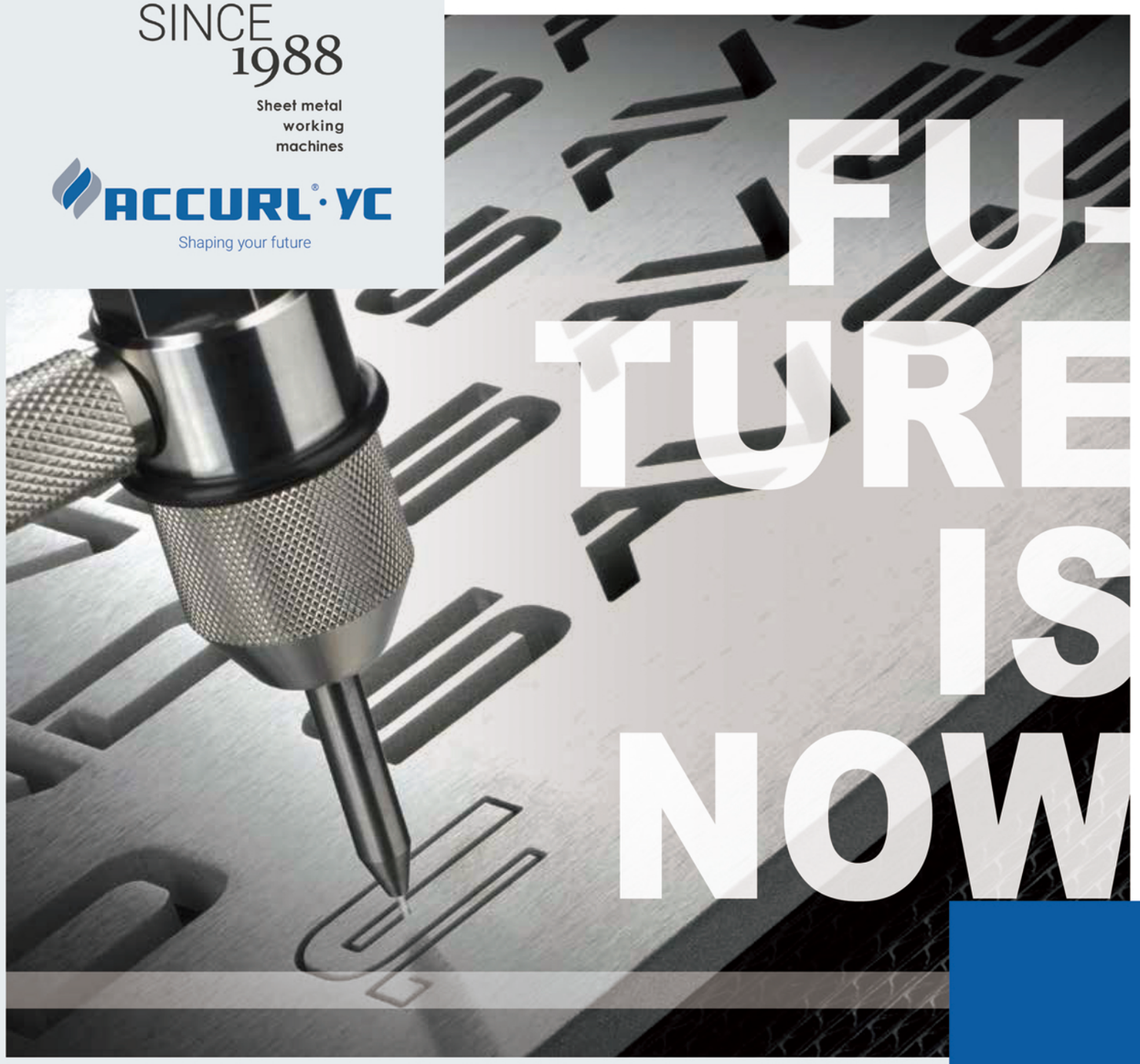
AGENT\

SINCE 1988

Sheet metal working machines

ACCURL·YC

Shaping your future




# OPTIMIZING WATERJET PERFORMANCE

## MAX BP SERIES


WATERJET division

ACCURL MACHINE TOOLS
CHINA | ACCURLUSA

Industrial Park In Bowang
Ma'anshan,Anhui,China

QIAOLIAN PLASMA & LASER MACHINE TOOLS

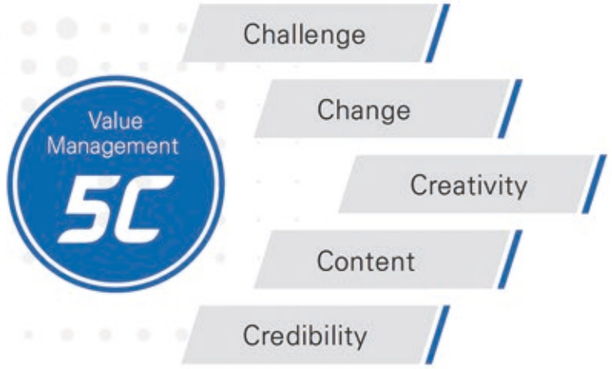
T | +86 555 2780 563
F | +86 555 2780 553
E | info@accurl.com

www.accurl.com

MADE FOR EUROPE

ACCURL-YC waterjet cutting Laser & Plasma Systems is the company that creates value of the success and shares the value with all our customers.

Based on the continuous investment in R&D, we have developed the laser cutting and bending technologies and products.




## MISSION

Creating the value of success through customer satisfaction

## VISION

The company that provides fun and joy

## VALUE

Challenge · Change · Creativity · Content · Credibility

## Next level.
## Next to you.

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

More productive machines, new automation solutions, and easy- to-use option suites are designed to meet the customer’s real needs. To provide the best ACCURL technology, our team of experts will always be available to listen, assist and advise.

# TECHNOLOGY
# SOLUTIONS • CUTTING

We work every day to give a new shape to the future. Operators and skilled technicians allow for maximum customization and an effectiveassistance,guaranteeing performance, quality and service.

The renewed style of Accurl is the result of collaboration with an important and well-known design and engineering firm, Studio in Poland and U.S.

It is the perfect combination of aesthetics and ergonomics. ,One look and feel for all product families.we use epoxy-acrylic paint.This shiny film also makes cleaning easier.

SINCE 1988

Sheet metal working machines

ACCURL®

Shaping your future

1988 / 2019

**1988**
·Incorporated ACCURL Machine Tools

**2009**
Selected as a:
·Promising mid-sized export company
·Acquired ISO 9001 certification

**2011**
·Excellence award in the field of laser technology

**2013**
Selected as a
·learning organization company
·Declared 5C value management

**2014**
·Incorporated ACCURLUSA Utah subsidiary

**2015**
· Director awarded the proud enterpriser prize
· 20 million dollars export price

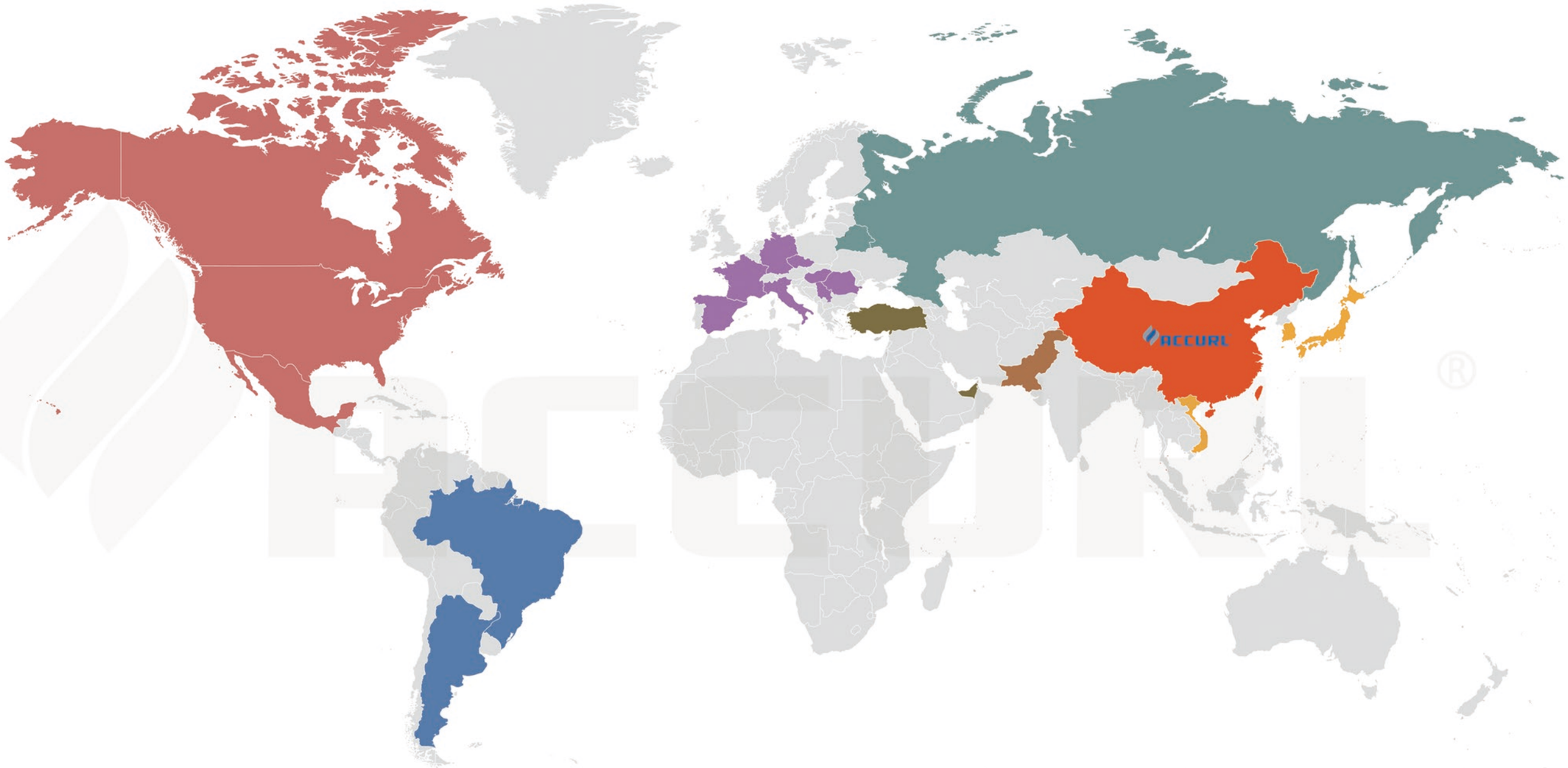
**2016**
· Recognized in technology innovation for a mid-sized company

**2017**
· Incorporated
ACCURL Europe Bulgaria subsidiary
ACCURL UK LTD subsidiary

**2018**
· Incorporated
ACCURL·YC China Wuxi

**2019**
· Selected as a
High-Tech Enterprise

# Global Network




WATERJET division

SINCE 1988

Sheet metal working machines

ACCURL®

Shaping your future

- Algeria
- Australia
- Austria
- Belgium
- China
- Colombia
- Czech Republic
- Denmark
- Egypt
- USA
- England
- Finland
- France
- Germany
- Holland
- Hungary
- India
- Italy
- Jordan
- Morocco
- Mexico
- Middle East
- Poland
- Portugal
- Romania
- Russia
- South Africa
- Spain
- Sweden
- Switzerland
- Taiwan
- Turkey
- Venezuela


3-AXIS WATERJET


5-AXIS WATERJET

The Waterjet System Developed By ACCURL,Combine our experience our experience and Technology With The Characteristics Of Ultra-Highpressure Water,Achieving a Unique Cutting Capability for a Wide Variety of Materials and Thickness.

- Low cutting temperatures to prevent thermal alteration and residual tension.
- Clean cut without harmful atmospheres
- The cut surface neither cracks nor bends.
- Optimal utilization of raw material with negligible material loss
- Eliminates subsequent finishing processes.

| | |
|---|---|
| VERSATILE | Waterjet is capable of cutting “any” material including; Stainless Steel, Aluminum, Glass, Marble, Plastic, rubber, Cork and Wood, just to name a few. |
| POWERFUL | Capable of cutting up to 200mm (8”) thick steel. |
| ACCURATE | With waterjet cutting, part deformation is avoided and high cutting accuracy is achieved without leaving any frayed edges or burrs. |
| NO HEAT AFFECTED ZONE | Resulting in less warping of components, increased cutter life on secondary operations and no grinding for weld preparation. |
| FLEXIBLE | Any two-dimensional shape can be cut by a simple program done on the machine CAD system or from any DXF file either networked, downloaded through |
| CLEAN | Waterjet produces no smoke or toxic gases because there is no burning process. |
| FAST | rapid set up times, no tooling and reduced need for secondary operations due to its accuracy and quality of the cut edge. |



## STANDARD EQUIPEMENT

- WEIHONG® 17" Multi-Touch Displays Control System
- YASKAWA® Highly dynamic EtherCAT servo drive
- HYPERTHERM® High Pressure Pump 50 HP/4200 bar
- ACCURL® Abrasive backstop system CUT CONTROL 3.0
- ACCURL® Abrasive regulation-ABRASIVE 3.0
- Automatic Abrasive feeder with 200L capacity
- ACCURL® Collision Protection 2.0
- Declaration of conformity and CE marking

## OPTIONAL EQUIPEMENT

- MAX 3D 5-Axis Bevel Cutting Head 2.0
- Water Jet Soften Treatment
- Auto Sludge Removal System
- IGEMS 3-Axis CAM Minmum 3X Nesting Software
- IGEMS 5-Axis CAM Normal 3D-5XB Nesting Software
- HYPERTHERM® HyPrecision® 75S Pump of 75 HP
- ITALY ECS-905 CNC Control system

## SPECIFICATIONS

**MACHINE DIMENSION AND WEIGHT**

| MACHINE MODEL | [um] | 3015 |
|---|---|---|
| Length | [mm] | 4250 |
| Width | [mm] | 2260 |
| Height | [mm] | 1900 |
| Weight | [kg] | 2850 |

**WORKING AREA**

| MACHINE MODEL | [um] | 3015 | 4020 |
|---|---|---|---|
| X axis | [mm] | 3060 | 4060 |
| Y axis | [mm] | 1540 | 2050 |
| Z axis | [mm] | 100 | 100 |
| Max.sheet weight | [kg] | 1100 | 1800 |

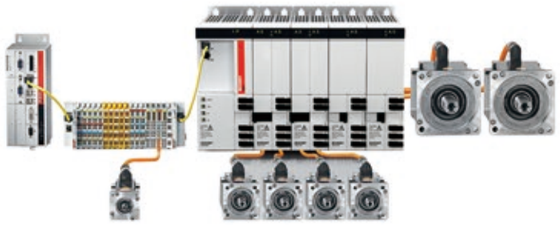
1)Approximate values.The exact parameters are specified in the installation plan.

## ITALY ECS CONTROL SYSTEM

- ECS SPA began working in the field of CNC in 1970 and is therefore rightly among the pioneer companies in the world in this field, in which it still works and still have extended both the range of products in the fields of application. Currently it designs, manufactures and markets integrated solutions not only for metal working applications (milling, machining centres, lathes and boring), but also for working with sheet metal, and stone.


### CNC system 900 series

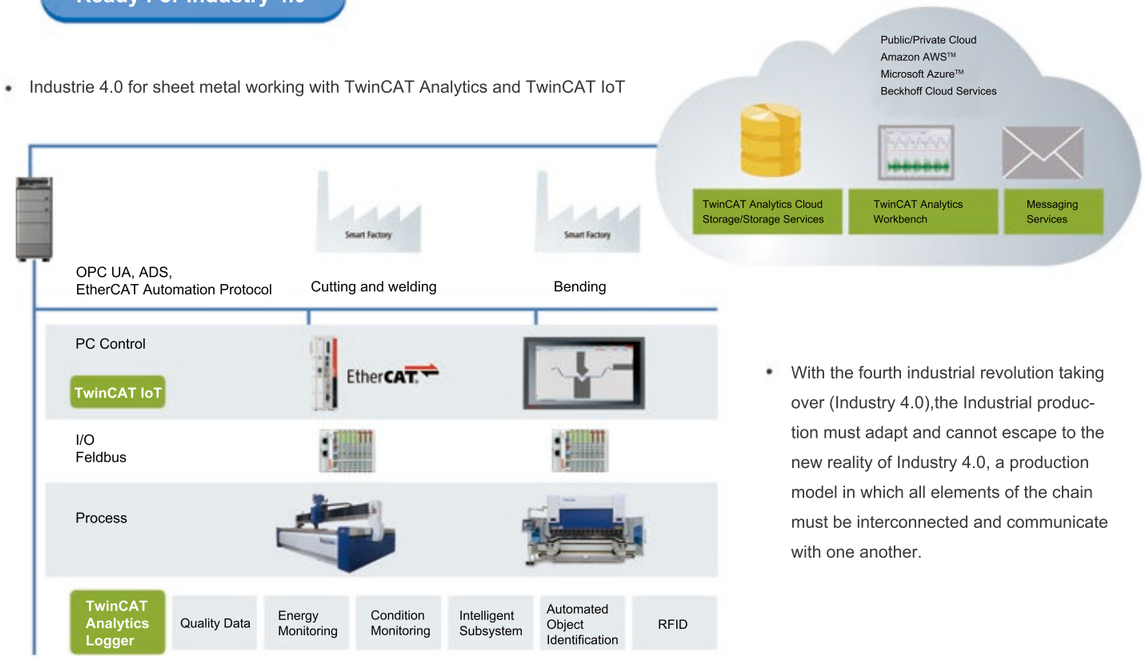
- Industrial PC based system
- Integrated CNC and I/O modules
- Wide range of communication protocols
- Easy installation and commissioning
- Rapid software integration
- Rich graphics
- Intuitive and easy to operate
- Work with battery back-up
- Touch screen



- In combination with the motion control solutions offered by the company's TwinCAT automation software, Beckhoff Drive Technology provides an advanced, all-inclusive drive system.

### Ready For Industry 4.0

- Industrie 4.0 for sheet metal working with TwinCAT Analytics and TwinCAT IoT




- With the fourth industrial revolution taking over (Industry 4.0),the Industrial production must adapt and cannot escape to the new reality of Industry 4.0, a production model in which all elements of the chain must be interconnected and communicate with one another.

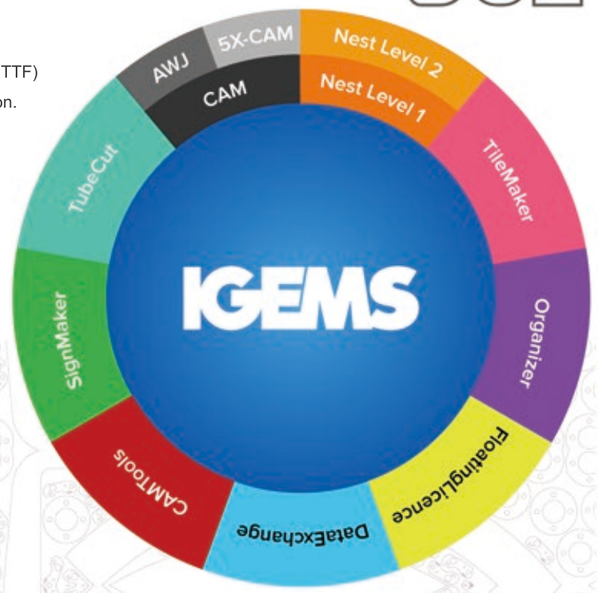


## IGEMS CAM-SOFTWARE

The IGEMS is a modular CAD, CAM and nesting software designed especially for waterjet cutting purposes. Thousands of people around the world use it to make anything they want.

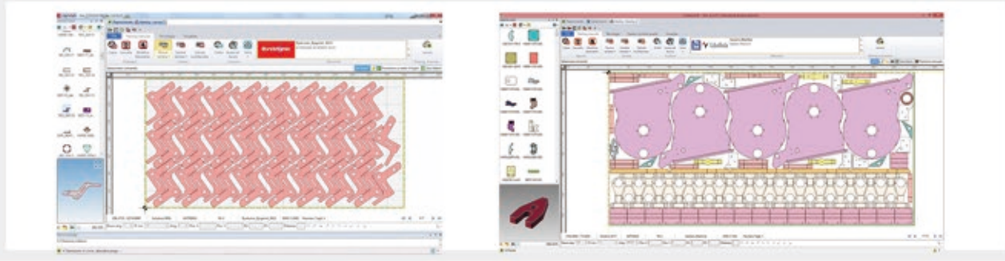
CAD/LAM
- The main 2D CAD functionality similar to AutoCAD.
- Support for multiple file formats (DWG, DXF, WMF, CNC, TTF)
- Special commands for drawing completion and optimization.
- Support for TTF font formats, CXF and SHX
- Transfer images from raster to vector format.
- Parametric parts (elements) Library.

NESTING
- Useful manual nesting tools with collision control
- Automatic nesting to fill sheets efficiently





### IGEMS Is Available For



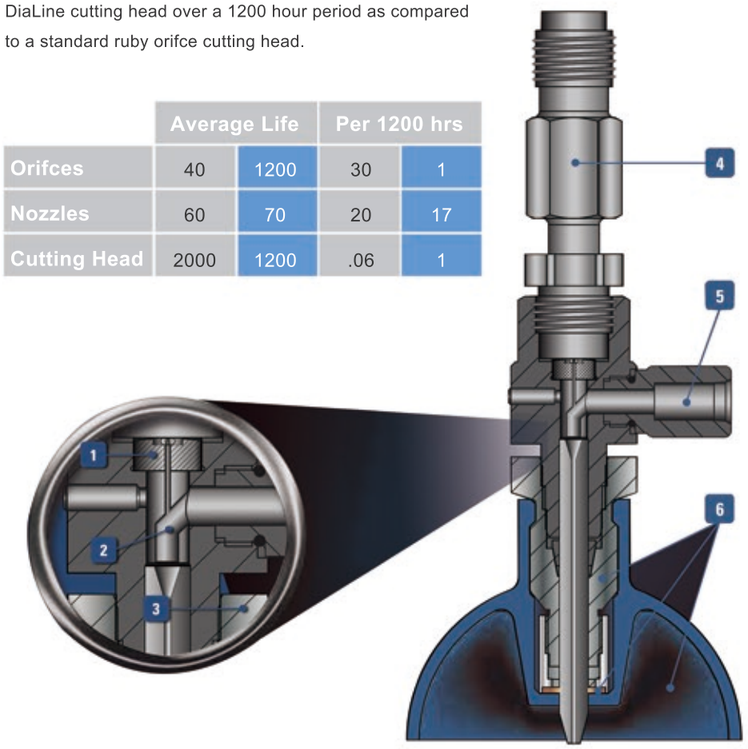
**Management of FMS lines and / or of the manual operations:**

- Reduction of the cutting number of diff erent nesting
- Automatic Skeleton cutting
- Systems management of loading / unloading and sorting systems

## CUSTOMIZABLE CUTTING HEAD SOLUTIONS

The chart below illustrates the average cost of operating a DiaLine cutting head over a 1200 hour period as compared to a standard ruby orifce cutting head.

| | Average Life | | Per 1200 hrs | |
|---|---|---|---|---|
| Orifces | 40 | 1200 | 30 | 1 |
| Nozzles | 60 | 70 | 20 | 17 |
| Cutting Head | 2000 | 1200 | .06 | 1 |




**4 HEAD CONNECTIONS**

- New adapter connections provide the ability to rotate the abrasive inlet enabling perfect placement
- Range of adapter confgurations available to easily mount DiaLine to any waterjet system

**5 ABRASIVE INLET**

- Optional 3/16” abrasive inlet nable simple connection to smaller abrasive feed lines
- Optional Dual inlet (not shown) makes vacuum assist cutting possible for low pressure piercing of brittle materials

**6 NOZZLE OPTIONS**

- Three nozzle nut options allows for custom cutting head confgurations (standard, 3” guard and 4” guard)
- Nozzle guard design signifcantly reduces wear and protects the cutting head
- Second carbide lined nut provides maximum protection and wear resistance (replaceable)

## L-SERIRES INTEGRAL GANTRY TYPE

Lathe bed and water tank are non-detachable, After the heating-treatment of whole machine table (to eliminate the stress of 95%), it is much better than the VSR(to eliminate the stress is 35%), It can, ensure the accuracy and stability in long time.

| Model | | | MAX-BP -1010L | MAX-BP -1313L | MAX-BP -2030L | MAX-BP -2040L | MAX-BP -4030L | MAX-BP -6020L | MAX-BP -8030L |
|---|---|---|---|---|---|---|---|---|---|
| Effective Cutting Area | | mm | 1000 x 1000 | 1300 x 1300 | 2000 x 3000 | 2000 x 4000 | 4000 x 3000 | 6000 x 2000 | 8000 x 3000 |
| Axis travel | X axis | mm | 1000 | 1300 | 2000 | 2000 | 4000 | 6000 | 8000 |
| | Y axis | mm | 1000 | 1300 | 3000 | 4000 | 3000 | 2000 | 3000 |
| | Z axis | mm | 150-180 | 150-180 | 150-180 | 150-180 | 150-180 | 150-180 | 150-180 |
| Cutting accuracy | | mm | +/- 0.1 | | | | | | |
| Positioning cccuracy | | mm | +/- 0.02 | | | | | | |
| X,Y dry-run speed | | m/min | 0-15 (if need 30m/min speed,we can do as request) | | | | | | |
| Cutting speed | | m/min | as to detail material and thickness | | | | | | |



## THE MAX 3D 5-AXIS CUTTING HEAD 2.0

• The 3D cutter head has five axes, 3 linear and 2 rotating. It has been designed for both pure 3D cut and 2D 1/2 cut (flat cut with bevel), without losing 2D (flat) cut functionality. Its design features offer great work possibilities. Especially its infinite rotation in the C axis, which avoids the need to rewind with a consequent reduction in working times and a lower risk of reducing the cut quality. On the rotating frame of the C-axis, it is possible to connect the height adjustment and anti-collision control module.


**5-Axis Cutting Head**

| | |
|---|---|
| C axis | |
| Effective range | Infinite |
| Max positioning speed | 300 min-1 |
| A axis | |
| Effective range | ± 60º |
| Max positioning speed | 500 min-1 |

• It is also possible to eliminate the taper of the pieces, by means of a TCI JET CONTROL1.0 with a tangential cutting function using the 5-axis, that has been programmed in the CNC.

• The noise level generated by the machine has been set at 85 dB at a distance of one meter during cutting 10 mm material with one cutting head with a nozzle diameter of 0.30 mm and submerged cutting.

Advantages:

• Can be used with various cutting heads.
• C-Axis
• B-Axis
• Crash Sensor Block
• Provided by crash sensor.
• Provided by splash shield.
• Can be provided be auto height sensor.
• Its kinematic principle does not need a complex control algorithm, so the position error will be decreased.

# ADDITIONAL EQUIPMENT

## TCI ABRASIVE 3.0

Automatic abrasive regulation system incorporating a continuously regulated motor automatically delivering the required quantity of abrasive through a real-time controlled channel, enabling the exact quantity to be dispensed at all times, eliminating traditional manual regulation. This is controlled by the machine interface and stops if it detects that the abrasive has been used up. It is ideal for cutting fragile and composite materials.

## ABRALINE 1.0

Automatic abrasive dosing during the cutting process. This system provides a low pressure pneumatic abrasive feed to the autonomic regulation system incorporated in the hopper of the cutting head. It also incorporates warning sensors if the abrasive level is low and can be refilled without interruption to the cutting process. It is fully accessible by the user and has a capacity of 200 l.


OPTIONAL

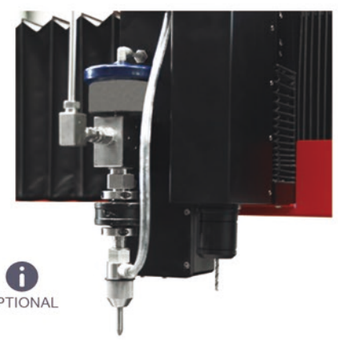
OPTIONAL

## BULK TANK 2.0

2.000 kg capacity hopper for machines requi- ring high production output. Continuous feed for the TCI ABRALINE 1.0 system, preventing unne- cessary stops and above all allowing autonomous functioning of the machine during lengthy cutting procedures.

## DRILL 2.0

Equipment developed for mechanical predrilling fragile materials and multi-laminated composites that might be damaged by waterjet perforation. Possibility to mount different drill bit diameters.



OPTIONAL



# SYSTEM SPECIFICATIONS COMPARISON

Our advanced Hypertherm pump technology provides 30% more nozzle horsepower than intensifier pumps.This added power means you can produce parts faster and at lower costs.

| | | HyPrecision™ 50S | | HyPrecision™ 60S | | HyPrecision™ 75S | | HyPrecision™ 100D | | HyPrecision™ 150D | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| GENERAL | Maximum output flow | 3.79 lpm | 4.16 lpm | 4.54 lpm | 4.92 lpm | 5.68 lpm | 6.06 lpm | 7.95 lpm | 8.33 lpm | 11.36 lpm | 12.11 lpm |
| | Maximun orifice | 0.356 mm | 0.38 mm | 0.406 mm | | 0.432 mm | 0.457 mm | 0.508 mm | 0.533 mm | 0.610 mm | 0.635 mm |
| | Continuous output pressure | Adjustable to 60,000 psi (4137 bar) | | | | | | Adjustable to 60,000 psi (4137 bar) | | | |
| | Intensifier configuration | Single | | | | | | Dual | | | |
| | Pressure control | Panel-mounted Dual Manual | | | | | | Electronic Proportional | | | |
| | Bleed-down valve | Hydraulic | | | | | | Hydraulic | | | |
| PUMP POWER | Motor power | 37.3 kW | | 44.7 kW | | 56 kW | | 74.6 kW | | 111.9 kW | |
| | Voltage | 400 V | 208-230/460 V | 400 V | 460 V | 400 V | 460 V | 400 V | 460 V | 400 V | 460 V |
| | Full load | 73 A | 138-125/62 A | 75 A | 71.1 A | 103 A | 87.1 A | 138.8 A | 117.5 A | 204 A | 173.4 A |
| | Main breaker | 80 A | 150/80A | 100 A | | 125 A | 100 A | 150 A | | 225 A | |
| | Soft start | True Soft Start | | | | | | True Soft Start | | | |
| PHYSICAL | Overall width * length * height | 1016 * 1930 * 1422 mm | | | | | | 1143 * 2184 * 1422 mm | | 1397 * 2057 * 1422 mm | |
| | Approximate operating weight | 1406 kg | | 1497 kg | | | | 1882 kg | | 2767 kg | |

| | | | |
|---|---|---|---|
| OPTIONS | External air-over-oil cooling | External air-over-oil cooling | |
| | Chiller for oil cooling | Chiller for oil cooling | |
| | Redundancy | Water isolation valves | Water and hybraulic isolation valves |
| | Redundancy ready | – | |
| | Electronic proportional pressure control | – | |


| | | YCG-3038 | YCG-3742S | YCG-7542S |
|---|---|---|---|---|
| | Max Pressure | 380Mpa/55.000Psi | 420Mpa/60.000Psi | 420Mpa/60.000Psi |
| | Max Water Flow | 3.7L/min | 3.7L/min | 7.4L/min |
| | Max Orifice | 0.28mm/0.011” | 0.33mm/0.013” | 0.40mm/0.016” |
| | Max Nozzle | 0.76/0.03” | 1.02/0.04” | 1.27/0.05” |
| | Power | 30Kw/40Hp | 37Kw/50Hp | 75Kw/100Hp |