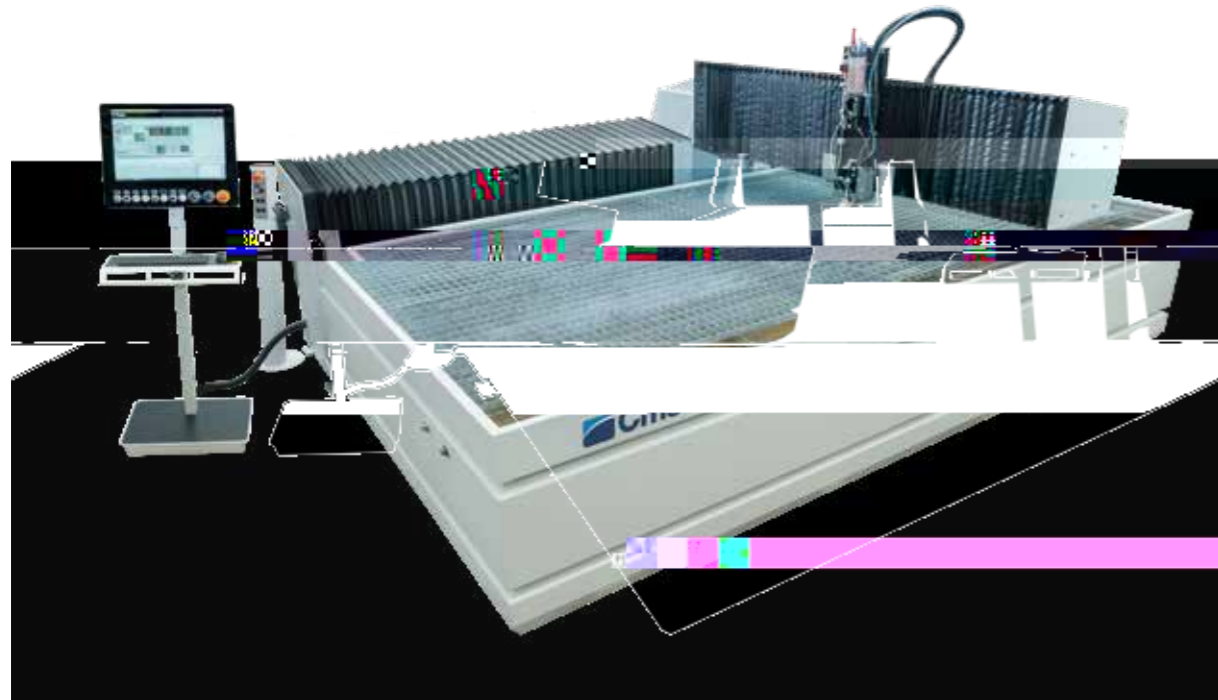


APPLICATIONS	4-5
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WATERJET MACHINE CONFIGURATION STANDARD/OPTIONALS	16-19
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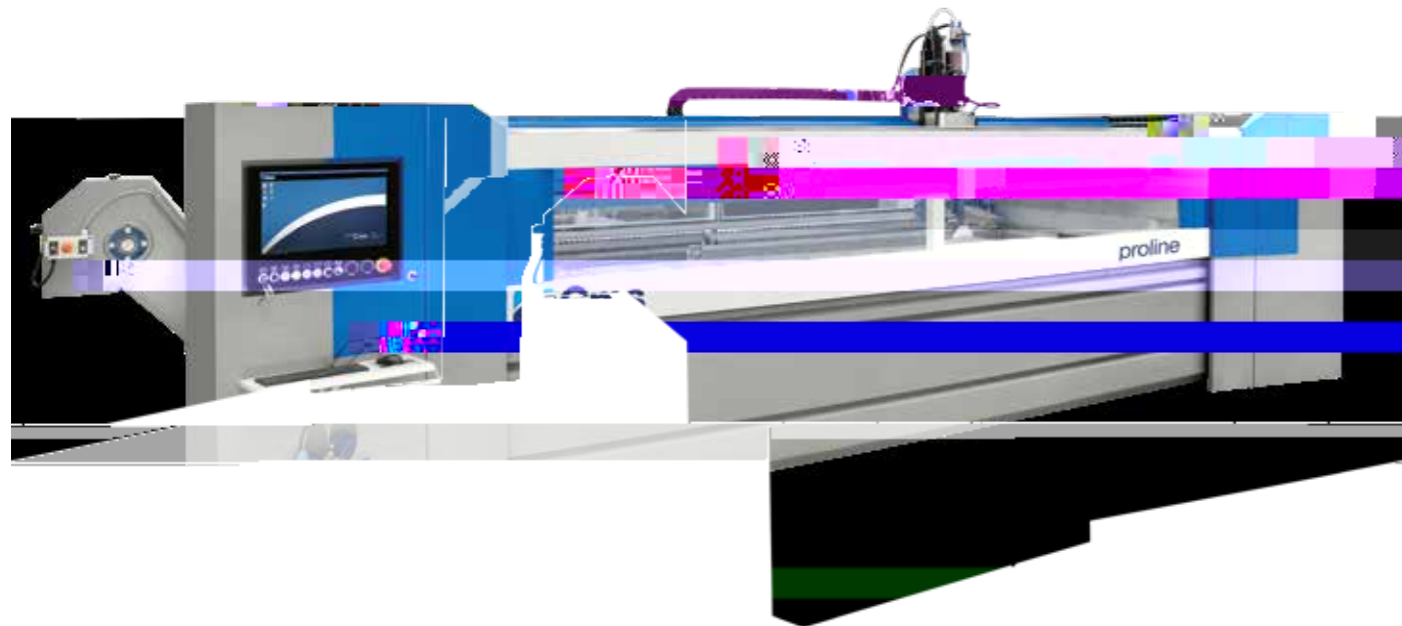


WATERJET MACHINES FOR GLASS PROCESSING



EASYLINE

The agile, versatile solution to access the world of waterjet cutting

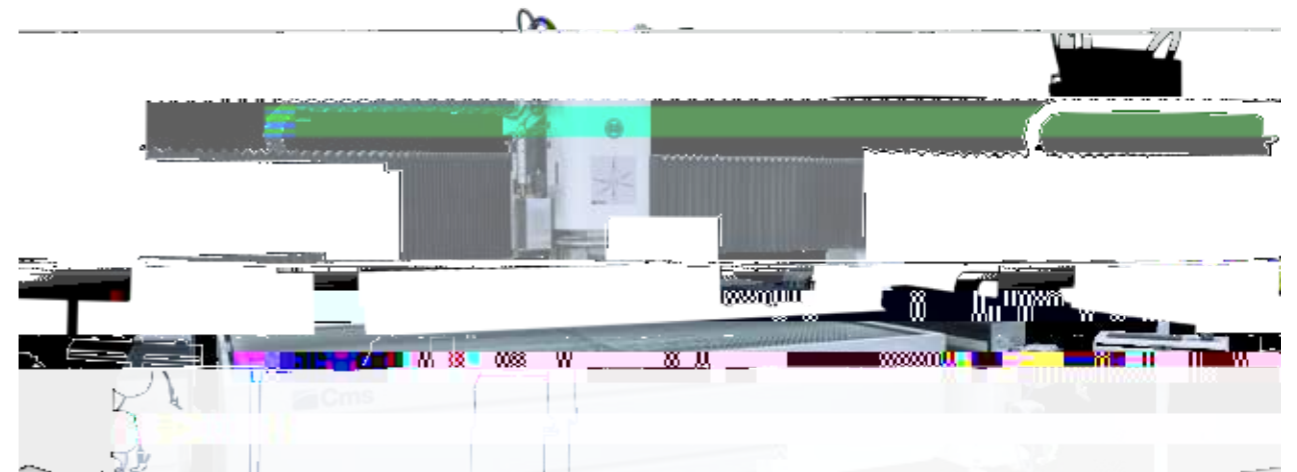


PROLINE

The technologically most advanced solution for more complex applications

SMARTLINE

The Smart solution for large amounts of production volumes with high standards of excellence



AQUATEC

The most robust modular solution on the market for machining large shapes

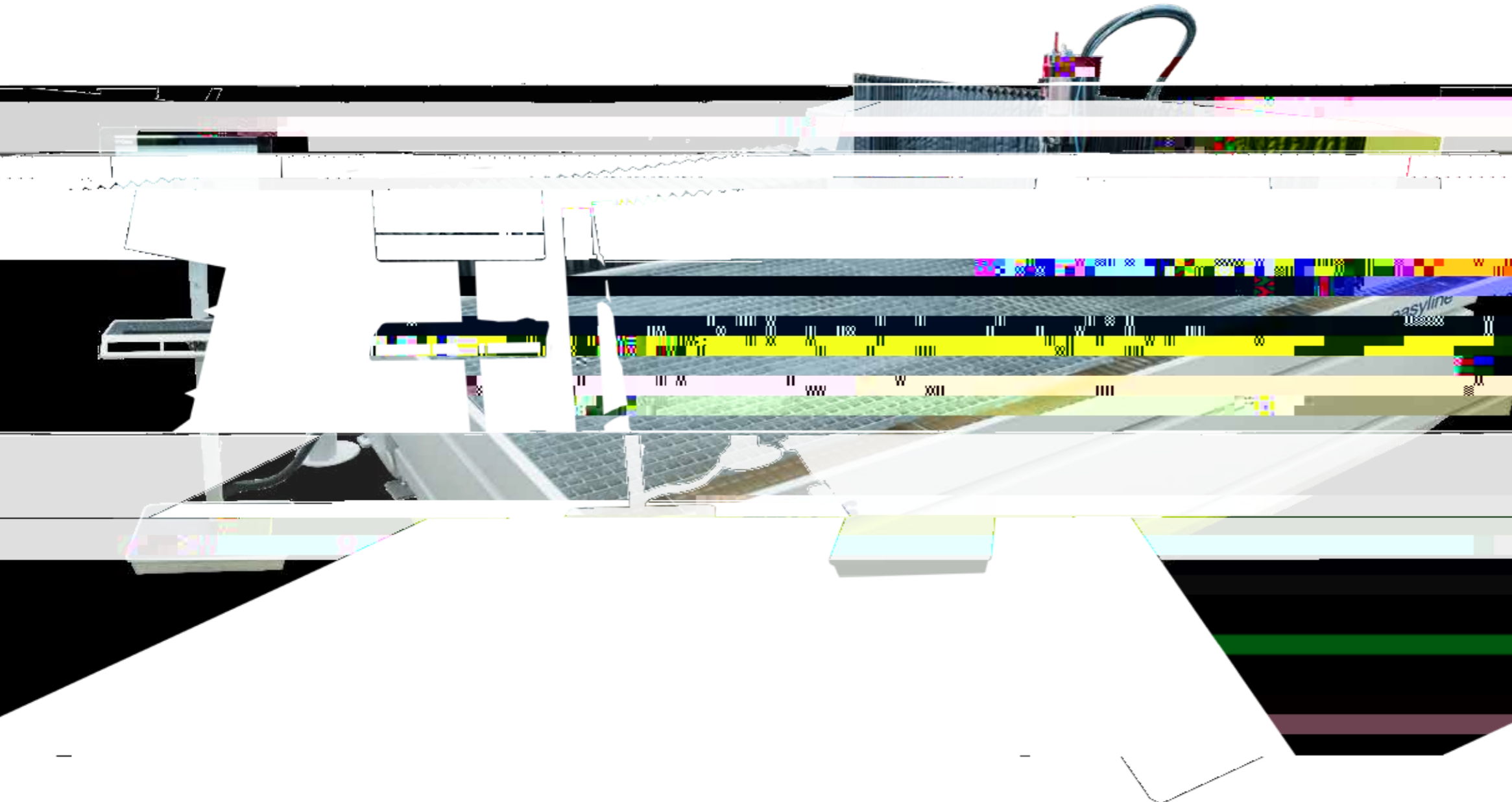
3- AND 5-AXIS WATER JET CUTTING SYSTEM

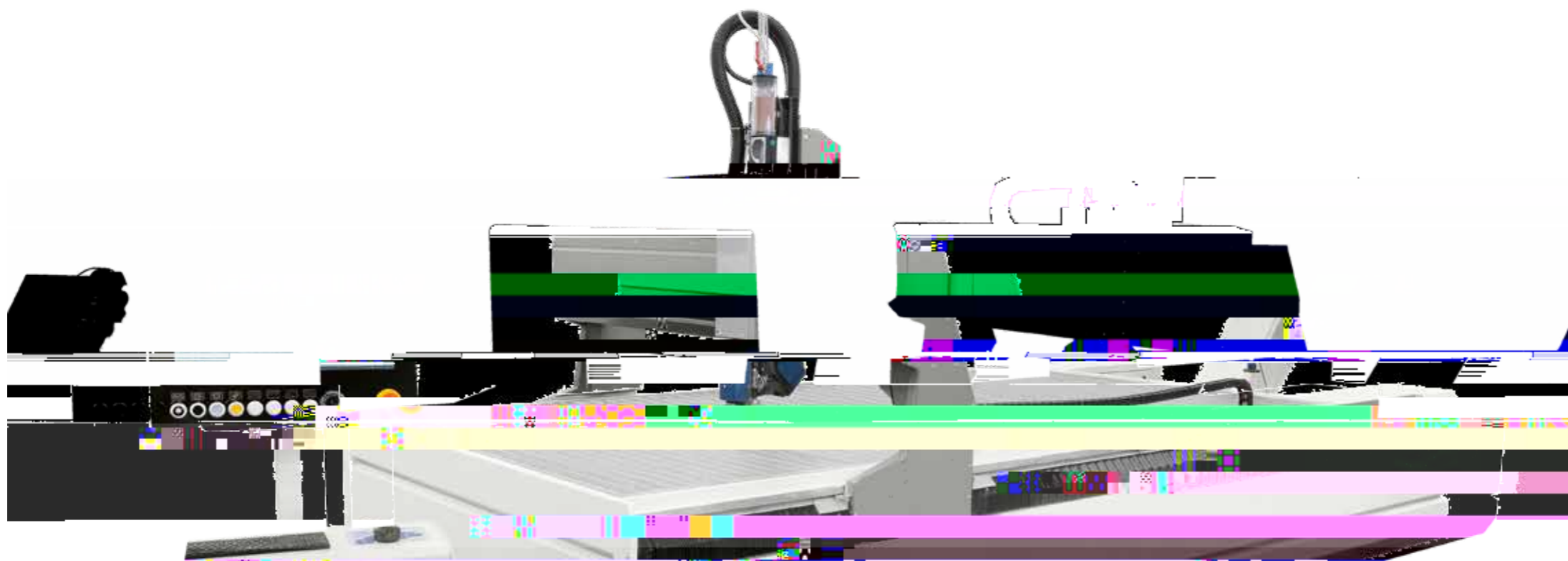
Easyline is a high-performance, versatile, modular water jet cutting system - either pure or hydroabrasive - which can be employed in a number of application fields for the most diverse production demands.

- The cantilever structure, with a separate tank, allows an easy access to the worktable. Loading and removing material is quick and easy.
- All axes' motions are carried out through hardened and ground rack and pinion.
- The thermowelded bellows provide complete protection of the guides and the rack from water and dust.
- The steel structure undergoes an anti-rust treatment through sandblasting and ceramic painting, which results in a higher resistance against corrosion.
- The tank is set up for the installation of a dredge system for the abrasive removal

KEY BUYER BENEFITS

+





PROLINE

TECHNOLOGICAL BENEFITS

HYDRO-ABRASIVE WATERJET CUTTING SYSTEM

A genuine machining center, conceived and designed with advanced technical solutions for the waterjet cutting technology, in order to achieve unmatched performance.

Proline is built around a stainless-steel frame ready for integration with the "dredge", a fully automated and maintenance free abrasive removal system, an automatic water level control and rotating axes for pipes processing. This innovative, easy configurable concept has not only the abrasive bulk hopper installed on-board, but also the electric servodriven high-pressure pump is integrated with the machine frame, a big saving in terms of overall layout.

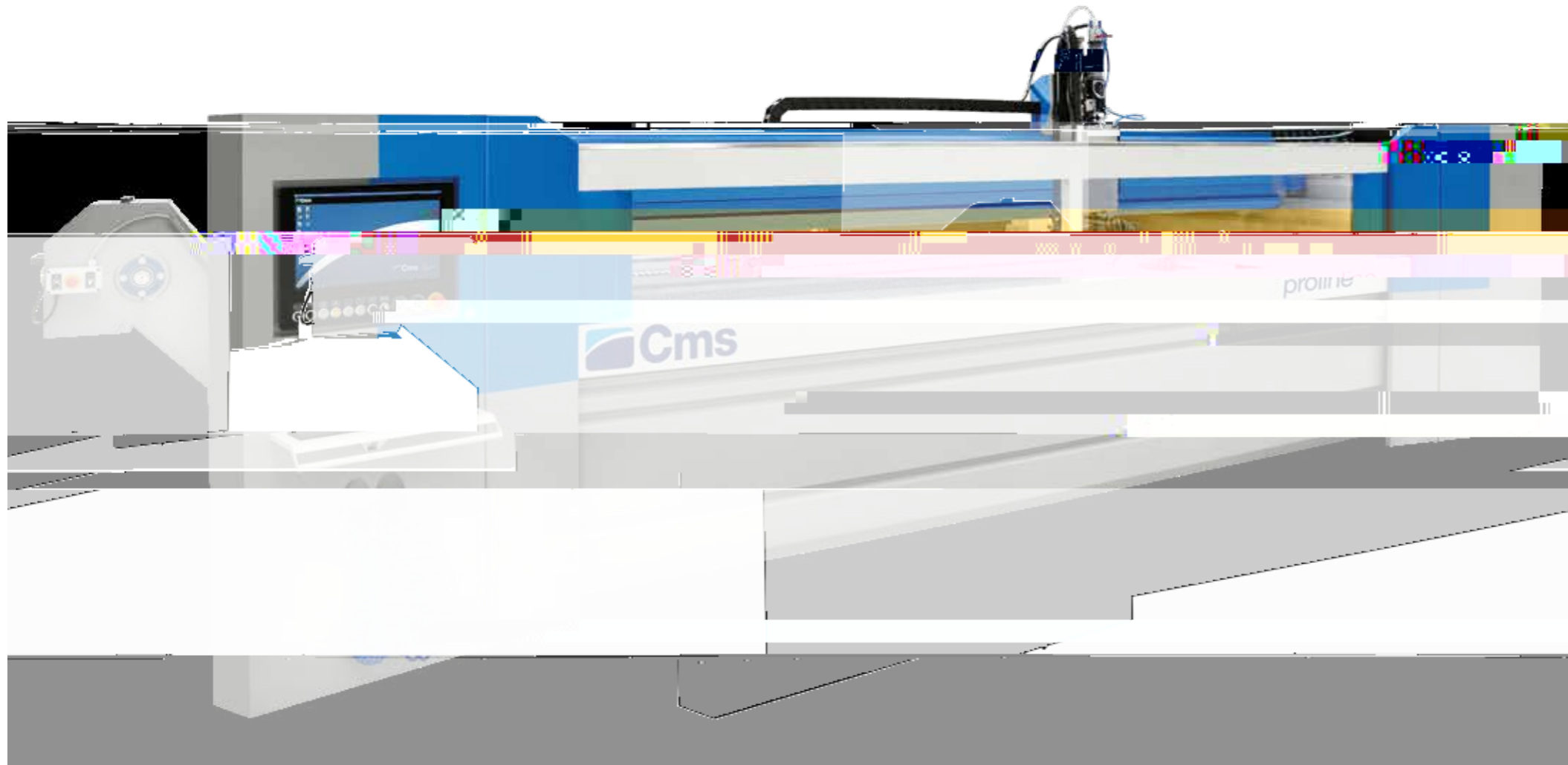
The gantry structure can guarantee maximum reliability over the years, thanks to tempered and ground racks and spiral pinions combined with gearbox that have a backlash of less than 1 arcmin.

The racks and sliding guides on the axes are protected by CMS' revolutionary "Powder-Free" system that is an engineering masterpiece of an impenetrable labyrinth of casings that guarantee full protection against water and dust.

- more versatile: endless standard arrangements to adapt to new production requirements
- faster: NC and digital drivers to speed up the programming of the machine and its accessories
- more compact: all the accessories are built into the base structure for fast and easy installation
- simpler: reduced installation times and re-commissioning

KEY BUYER BENEFITS

- + 35% increase in productivity, a 10% reduction in energy consumption
- + 100% increase in accuracy, 20% increase in speed, 1500-6200 mm/min cutting speed, 100% increase in accuracy
- + Macro programming, automatic tool change, automatic tool wear compensation, automatic tool length measurement, automatic tool radius compensation
- + ± 0.035 mm accuracy, ± 0.025 mm repeatability, automatic tool change, automatic tool length measurement, automatic tool radius compensation



Remote pushbutton pad to control up to 6 axes that allow you to operate close to the cutting surface and set multi-origins



21.5" industrial PC Panel on the machine with touch display and HMI CMS Active interface



Front and rear hatch with pneumatic movement to better protect the cutting area and reduce the dispersion of water and abrasive material

3- AND 5-AXIS HYDRO-ABRASIVE WATERJET CUTTING SYSTEM

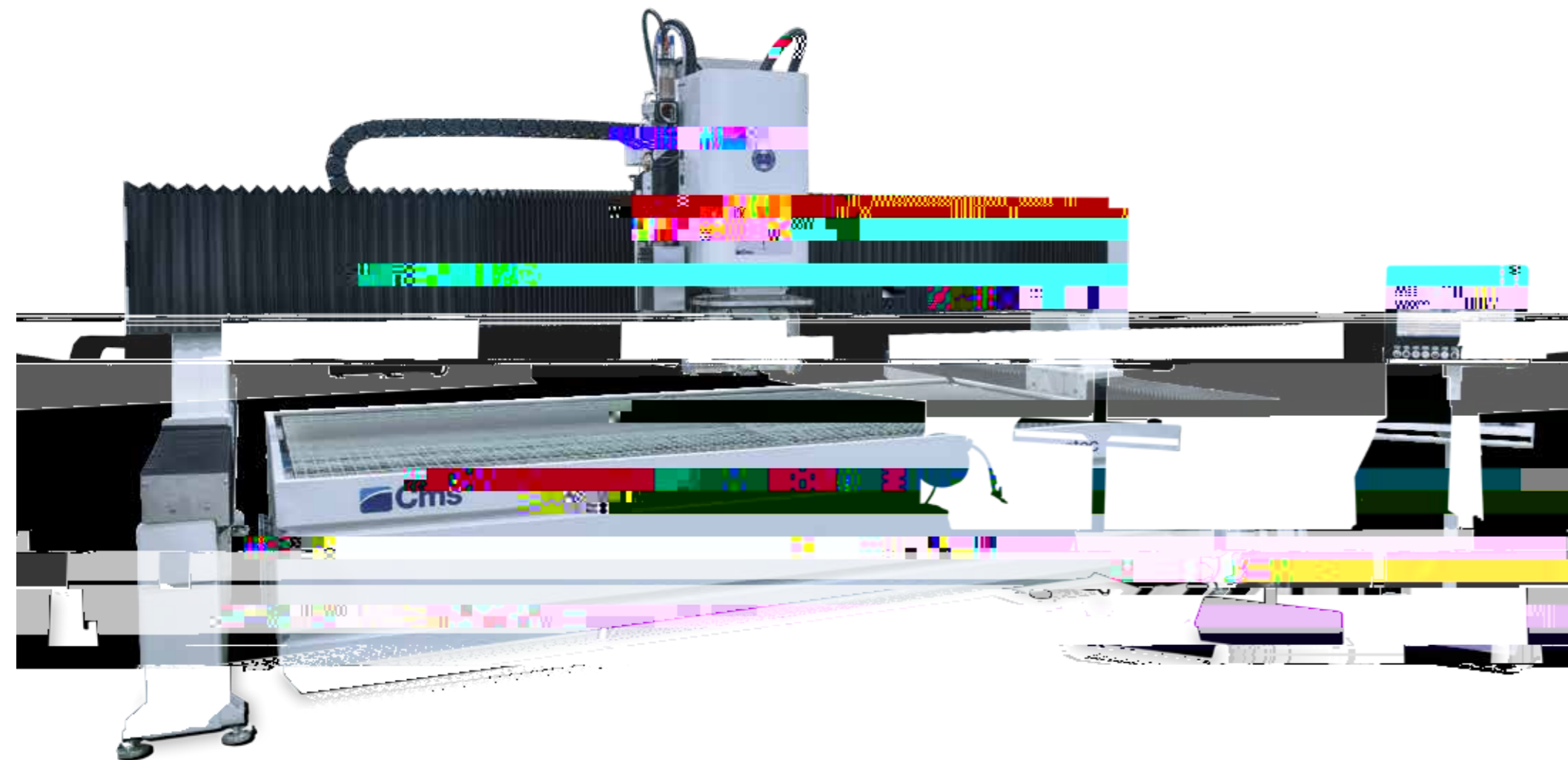
Aquatec is an advanced, versatile, high-performance abrasive waterjet cutting system, able to accommodate the most diverse production demands in different application fields, delivering highly accurate cuts. The machine consists of a mobile bridge moving along separate high-thickness steel supports, fastened to the floor and providing outstanding structural rigidity. This structure delivers high performances even by the most demanding tasks.

- The motions - including the one of the cutting head - are carried out by high precision tempered ground rack, driven by brushless motors.
- Steel guards and the polyurethane bellows protect all motion components from water and powders.
- Loading and unloading the material is fast and simple thanks to 2 or 4 open sides, as well as checking the cutting process. Moreover it allows to possibly install additional equipment to handle the material.

KEY BUYER BENEFITS

+ Ultra-compact machine: maximum cutting width 54 m/m, accuracy 2 m/2.

+

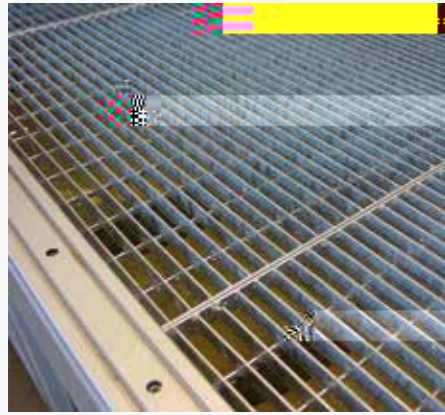


Remote pushbutton pad to control up to 6 axes that allow you to operate close to the cutting surface and set multi-origins

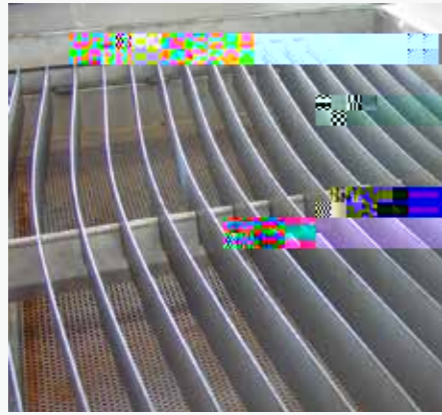
WATERJET MACHINE CONFIGURATION

STANDARD

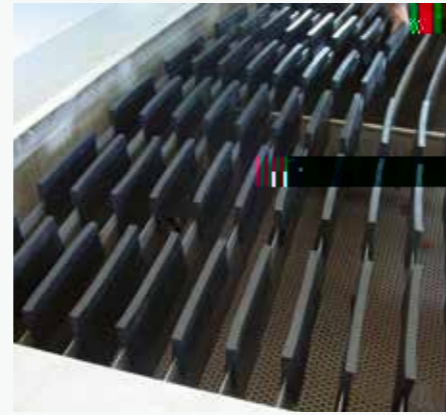
WORKING TABLES



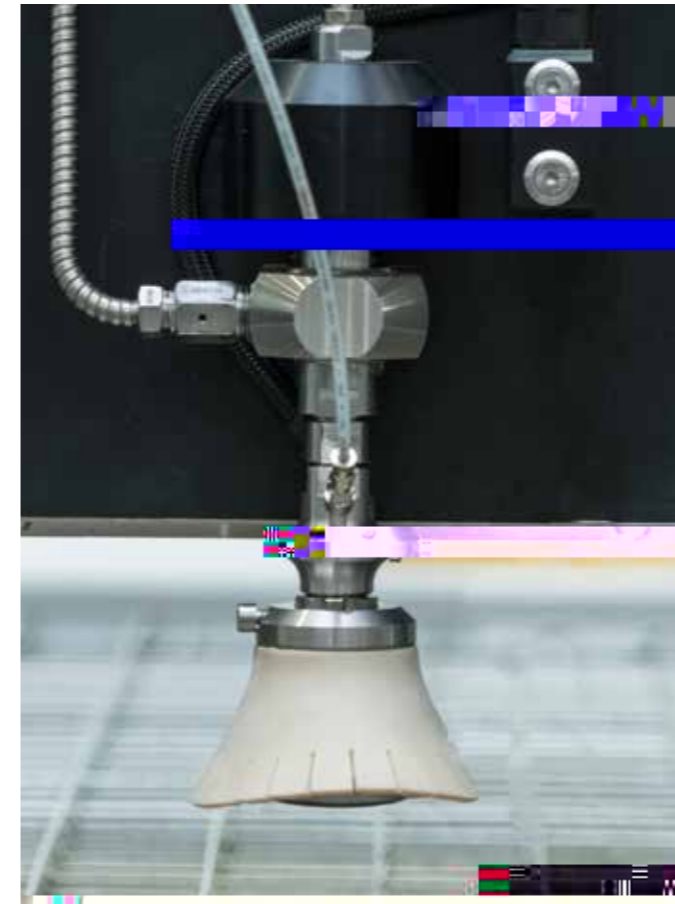
Standard Grid (std)



Anti-reflective surface (opt)

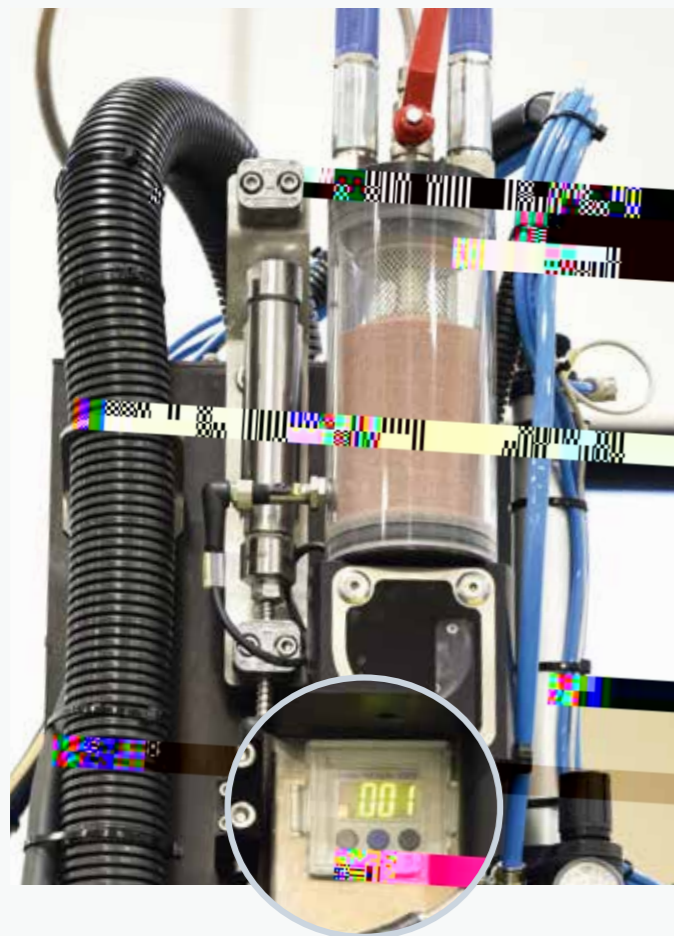


Anti-reflective table for glass (opt)

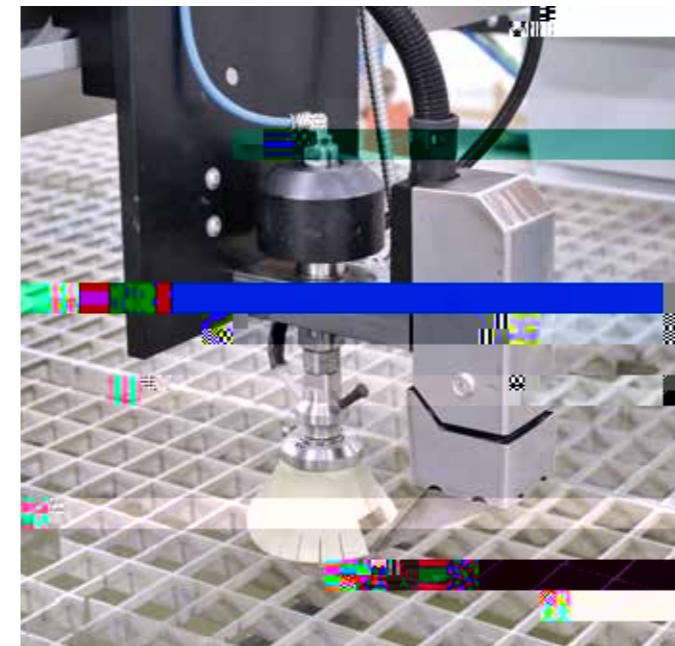


3-AXIS CUTTING HEAD

The cutting head has been designed to achieve high performance when cutting. The components of the cutting head like the opening, wear insert and focusing device are perfectly aligned and auto-centered to guarantee fast replacement. The end part of the head can be changed for pure or hydro-abrasive waterjet cutting and provide maximum performance in both applications.



Electronic hopper that automatically controls the abrasive flow. If the abrasive flow is interrupted for any reason, the system will automatically stop cutting to prevent damage and scrape materials. In addition, a vacuum sensor connect to the mixing chamber constantly detect the abrasive amount and flow, providing complete real-time information on the state of wear of the cutting head.



PROBE

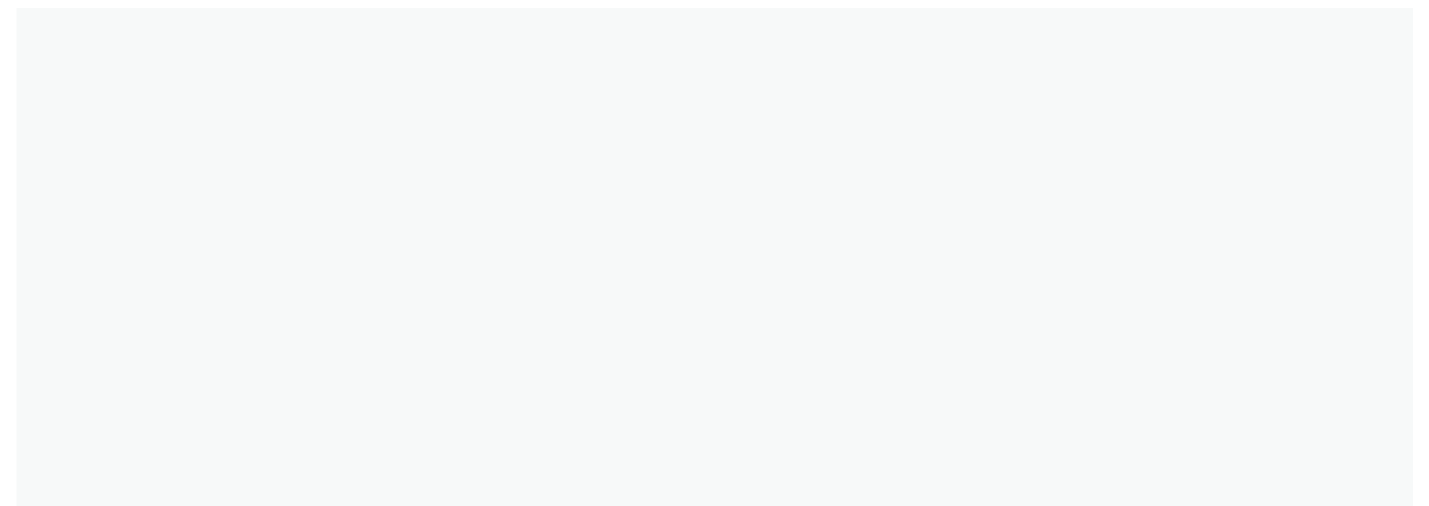
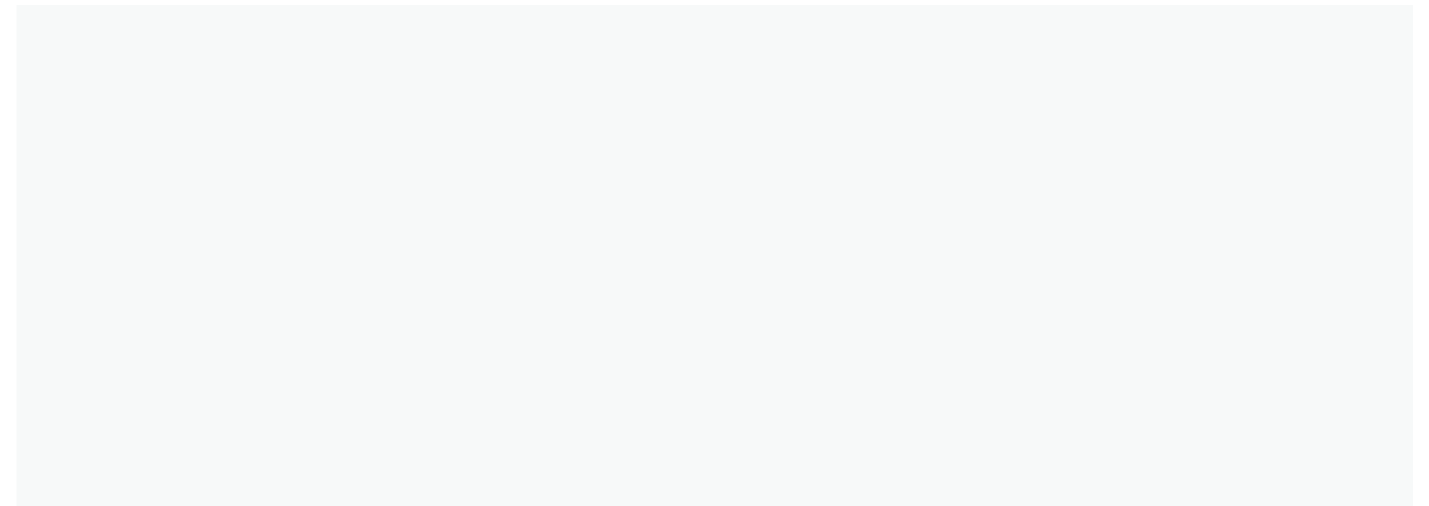
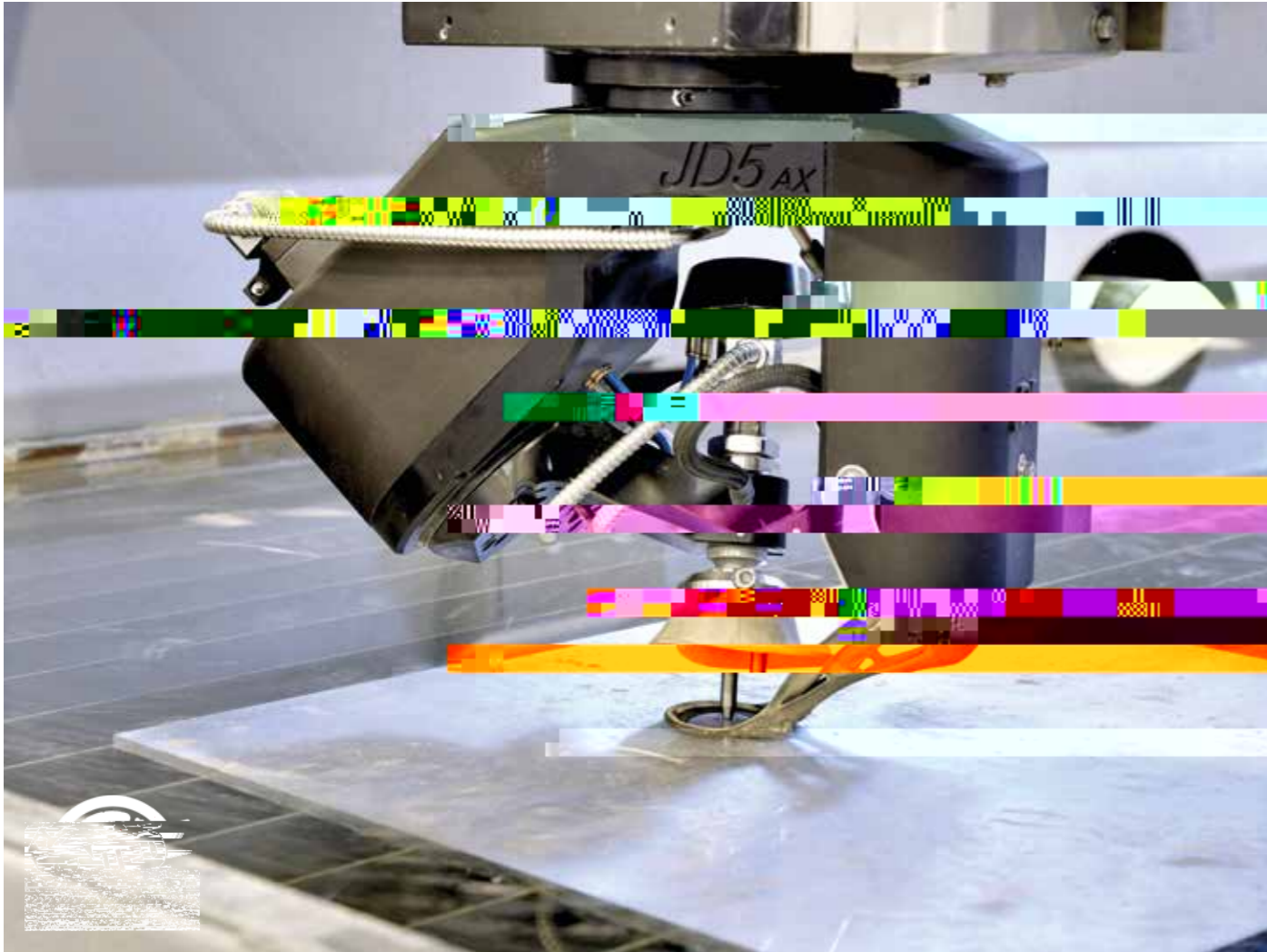
Probe system, continuous or periodic, available also with large ring for foam or glass cutting. It enables to maintain the same distance from the material being cut at all times even if the material is not perfectly flat.



LUBRICATION

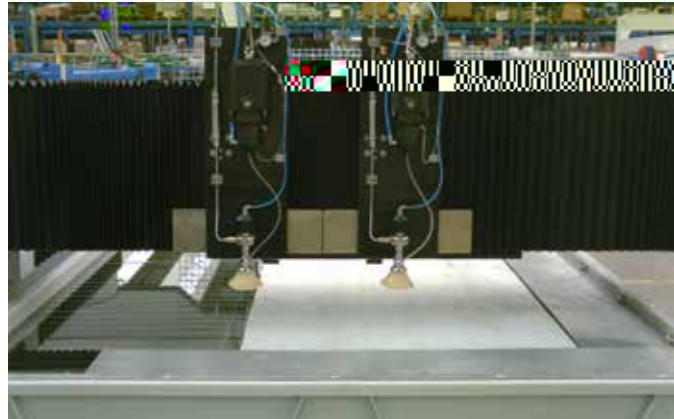
Forced injection CNC controlled automatic lubrication of the main axes X, Y and Z numerically controlled at pre-set intervals, without manual intervention and without machine down time. The presence of sensors allows for the pressure to be controlled and the tank's minimum level to be noted.

JD5AX

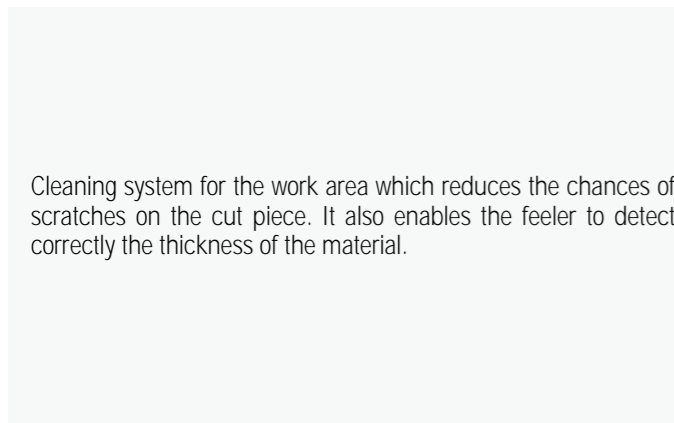


EASYLINE

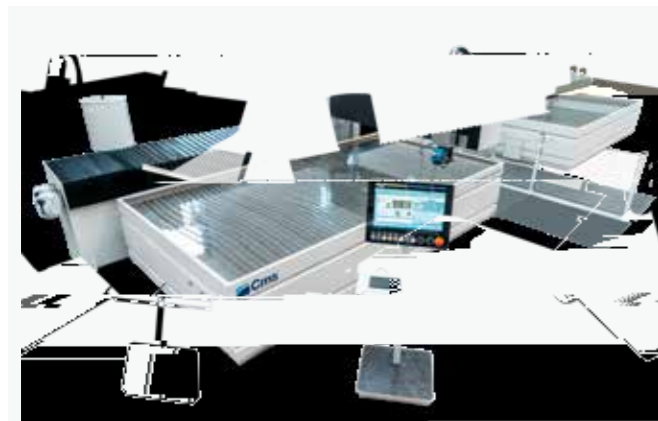
OPTIONALS



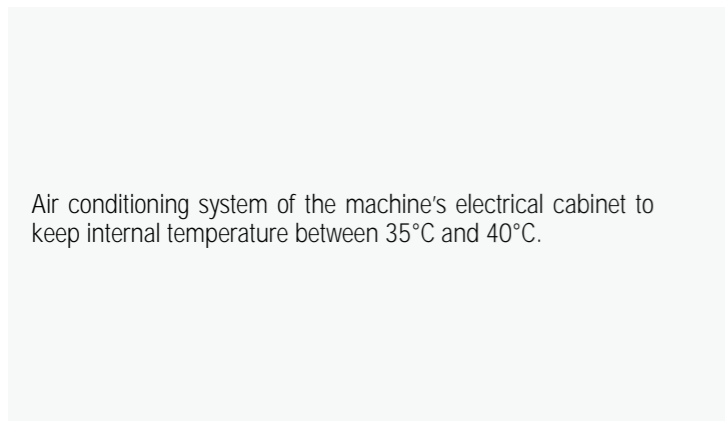
Additional Z axis to increase cycle productivity while cutting with two 3-axis heads; The X-axis stroke is reduced to 1490 mm to get a minimum distance of 510 mm (opt).



Cleaning system for the work area which reduces the chances of scratches on the cut piece. It also enables the feeler to detect correctly the thickness of the material.



Solution with double tank for pendular working.

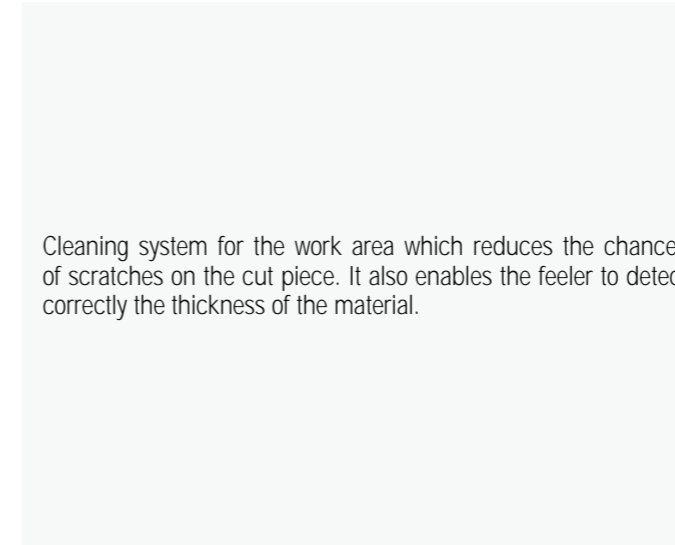


Air conditioning system of the machine's electrical cabinet to keep internal temperature between 35°C and 40°C.

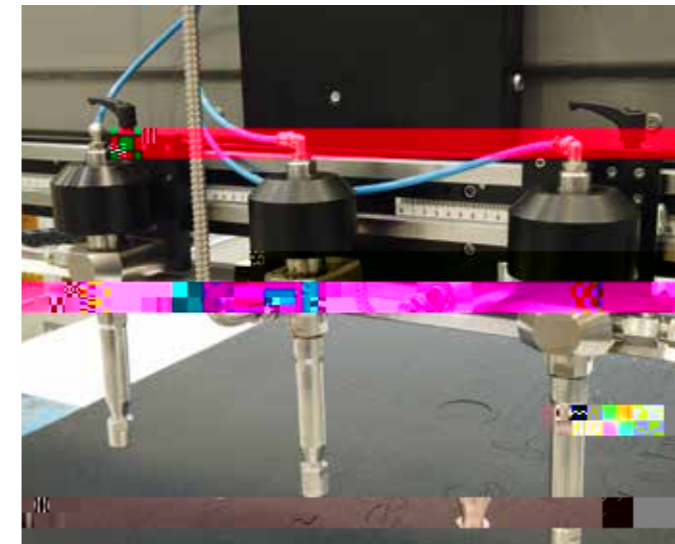


SMARTLINE

OPTIONALS



Cleaning system for the work area which reduces the chances of scratches on the cut piece. It also enables the feeler to detect correctly the thickness of the material.



MULTI-HEAD CARRIAGE
Working unit with 3 axis cutting heads on a spread bar, with manual distance adjustment to increase the productivity on flat panels.

- The unit can be easily adjusted thanks to:
- Sliding on double linear guide and ball bearings
 - Rapid lock/release system
 - Millimetric ruler for accurate positioning

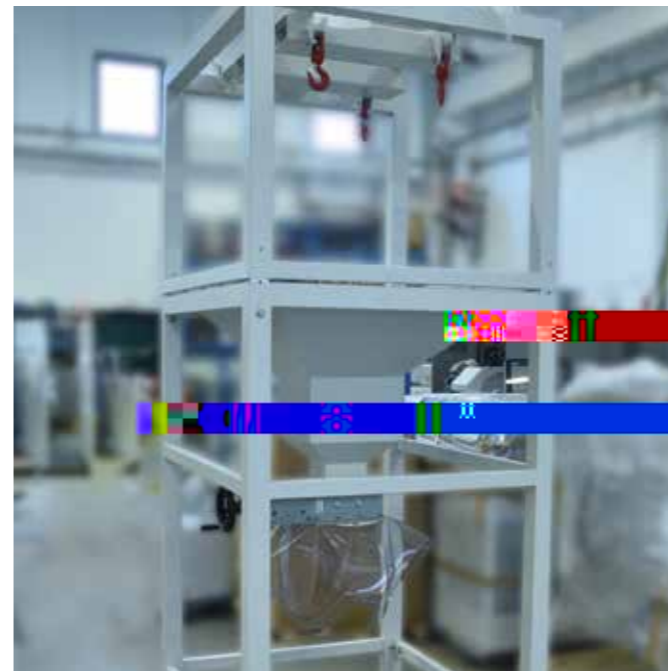
Available with maximum distance of 340 mm and 500 mm, while the minimum distance of 85 mm is always guaranteed.



Air conditioning system of the machine's electrical cabinet to keep internal temperature between 35°C and 40°C.

INTENSIFIER ON REMOVABLE CART

In the innovative base structure can accommodate up to two high pressure 4150 bar and 6200 bar electric actuators which dramatically

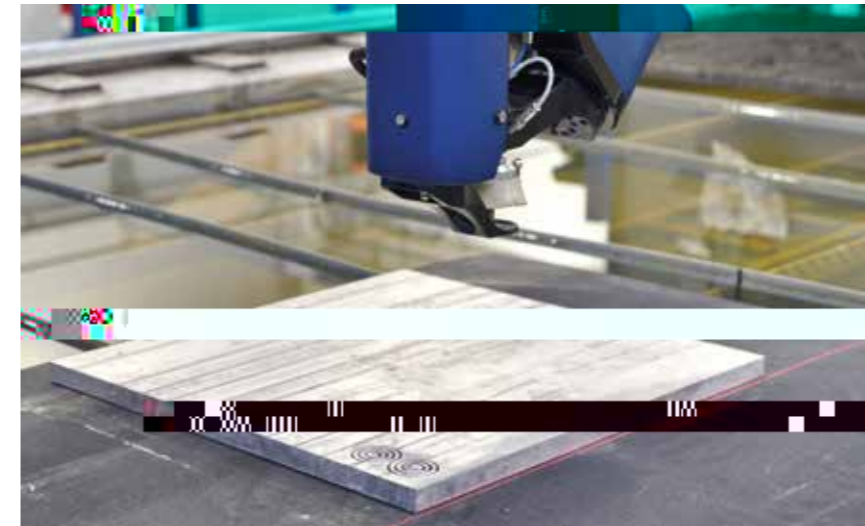




AUTOMATIC TCP DETECTION

Automatic laser detection system of the cutting head alignment with respect to the rotation center of the C axis and B axis with the aim of:

- compensating the misalignment of the cutting head in the event of a collision
- accurately calculating the XY positions of the focusing device before carrying out processing work with particularly strict tolerance requirements. The device is incorporated into the base and installed on a pop-up tray
- load the same ISO program on several 5-axis machines



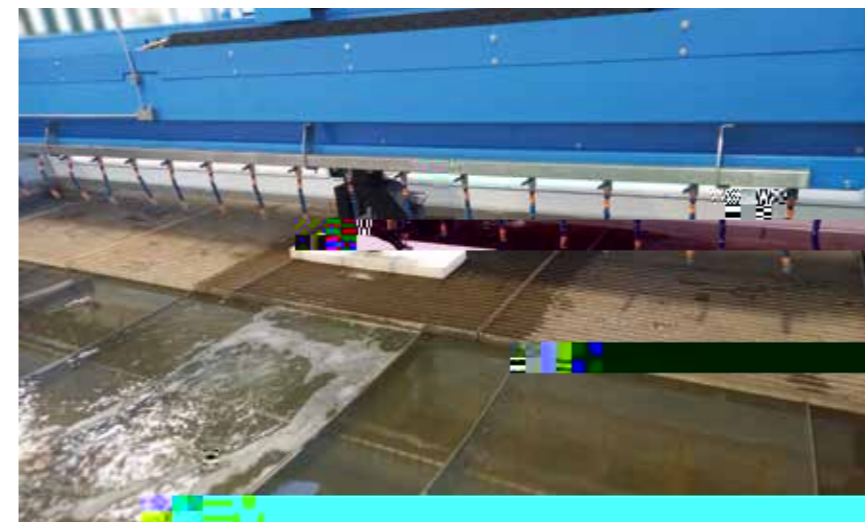
ALIGNMENT LASER PROJECTOR
Optional device to project a laser line onto the work surface that helps the operator to position and align the material before cutting.

ADDITIONAL CONTROL PANEL
In order to maximize the waterjet machine's functioning, it is possible to integrate an additional PC Panel into the standard control panel to view the video cameras monitoring the work area.



CAMERA FOR ORIGIN ACQUISITION

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SURFACE WASHING SYSTEM

The purpose of the washing system is to automatically remove the abrasive garnet settled on the surface when cutting. A washing cycle is planned after processing so that the abrasive garnet does not interfere with the handling and sheet securing operations. The area affected by the washing can be manually divided up into zones, excluding the calibrated nozzles singularly.

AQUATEC

OPTIONALS

AREA CLEANING DEVICE

Cleaning system for the work area which reduces the chances of scratches on the cut piece. It also enables the feeler to detect correctly the thickness of the material.

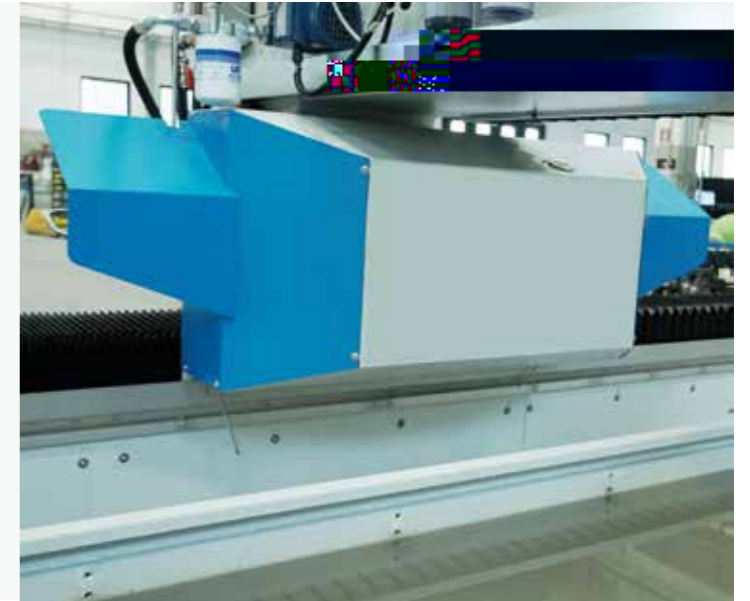


WORKTABLE CLEANING SYSTEM

Worktable cleaning system equipped with pump removes the possible material debris left on the sheet during the cut. A washing cycle at the end of the cut cleans completely the work area before loading/unloading the material.

ELECTRIC INTENSIFIER ONBOARD THE CROSSBEAM

Positioning of the Greenjet actuator and high-pressure circuit directly onboard the X-axis crossbeam. The solution avoids losing about 2 bar per meter of high-pressure pipe interfacing between the intensifier on the floor and the cutting head. The solution also enables reducing the installation layout of the system.



AUTOMATIC WATER LEVEL

Built-in water level in the tail of the tank, with pump for automatic adjustment (maximum 45 mm) of the water level for submerged cutting, eliminating the noise generated by the ultrasonic waterjet and keeping the working environment clean.

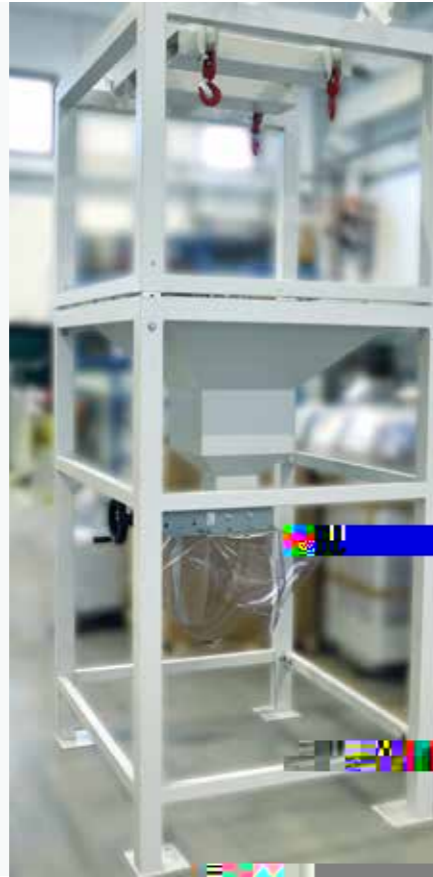
HIGH-PRECISION PACKAGE

X- and Y-axis transmission with rack and pinion helical gearboxes characterized by a higher accuracy class with respect to the standard gearboxes, to ensure strict positioning tolerances and repeatability.



AQUATEC

OPTIONALS



Pressurized abrasive feeding system with 330 kg capacity equipped with two tanks: one with a 330 kg capacity and another – pressurized – to supply the cutting head (electronic hopper). It is also available a 2-stage abrasive feeding system with a 2000 kg capacity to complete long cutting jobs without interruptions due to a lack of abrasive.

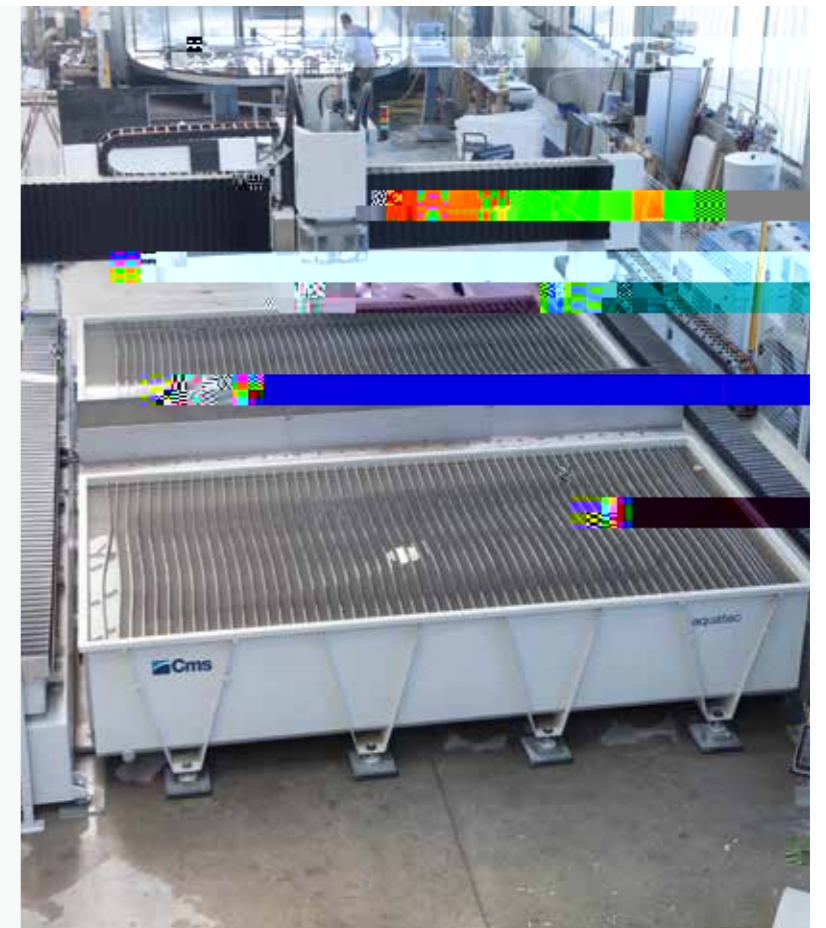


ACCESS THE LOADING PLATFORM
Possibility of rotating the tank by 90° by extending the Y-axis base travel runway modules to provide greater access space around the worktable and facilitate the loading and unloading of the material.
Alternatively, it is possible to configure the machine with a crossbeam up to 6 meters cutting envelope, guaranteeing a large front loading and unloading area, simplifying material handling with forklift trucks or crane.



Air conditioning system of the machine's electrical cabinet to keep internal temperature between 35°C and 40°C.

Double tank solution for pendular working.



PRESSURE MULTIPLIERS



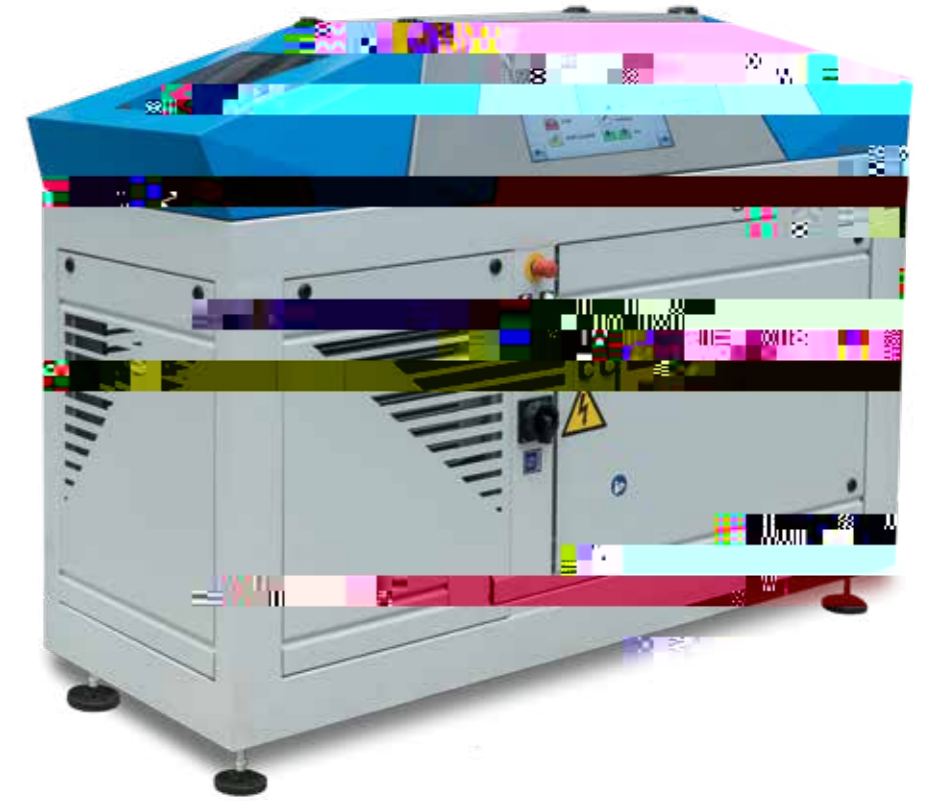
EASYPUMP

The multiplier with parallel cylinders ideal for those interested in the world of waterjet



JETPOWER EVO

The hydraulic multiplier with the highest level of reliability and robustness thanks to the parallel cylinder configuration



GREENJET EVO

The innovative electric pump with low consumption and maintenance costs to maximize productivity under any working condition

EASYPUMP

HIGH-PRESSURE INTENSIFIER

PRESSURE INTENSIFIER ENTIRELY MADE BY CMS

CMS has developed a new concept of high-pressure intensifiers: two or three parallel, independent and electronically synchronized pressure multipliers, which deliver a constant pressure while eliminating the need of an attenuator, a typical feature of old, traditional intensifiers.

KEY BUYER BENEFITS

- + Hydraulic intensifier with 2 or 3 independent and electronically synchronized parallel cylinders to guarantee a constant signal of output pressure without the use of attenuator.
- + The technology with 3 independent cylinders allows the bypass of a single cylinder that needs maintenance, while the machine is working, avoiding unnecessary downtime.
- + The parallel cylinders architecture is designed for a low cycle frequency that reduce the High pressure components wear and consequently the maintenance costs.
- + Sealed cover with soundproof panels to guarantee High noise reduction while the intensifier is working.

Fig. 1 Traditional opposing-cylinders intensifier

Pressure

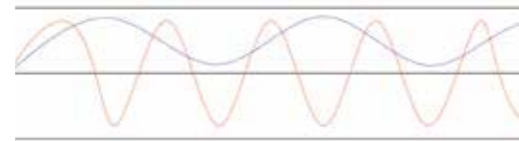
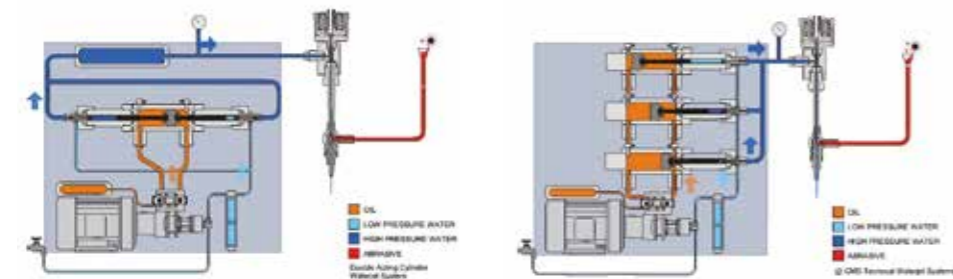


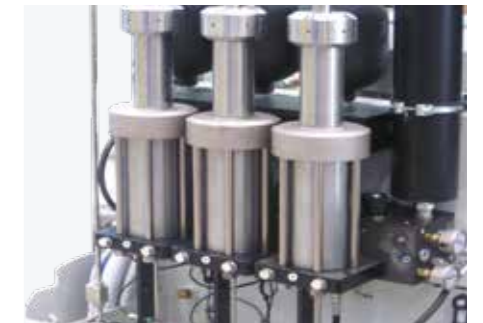
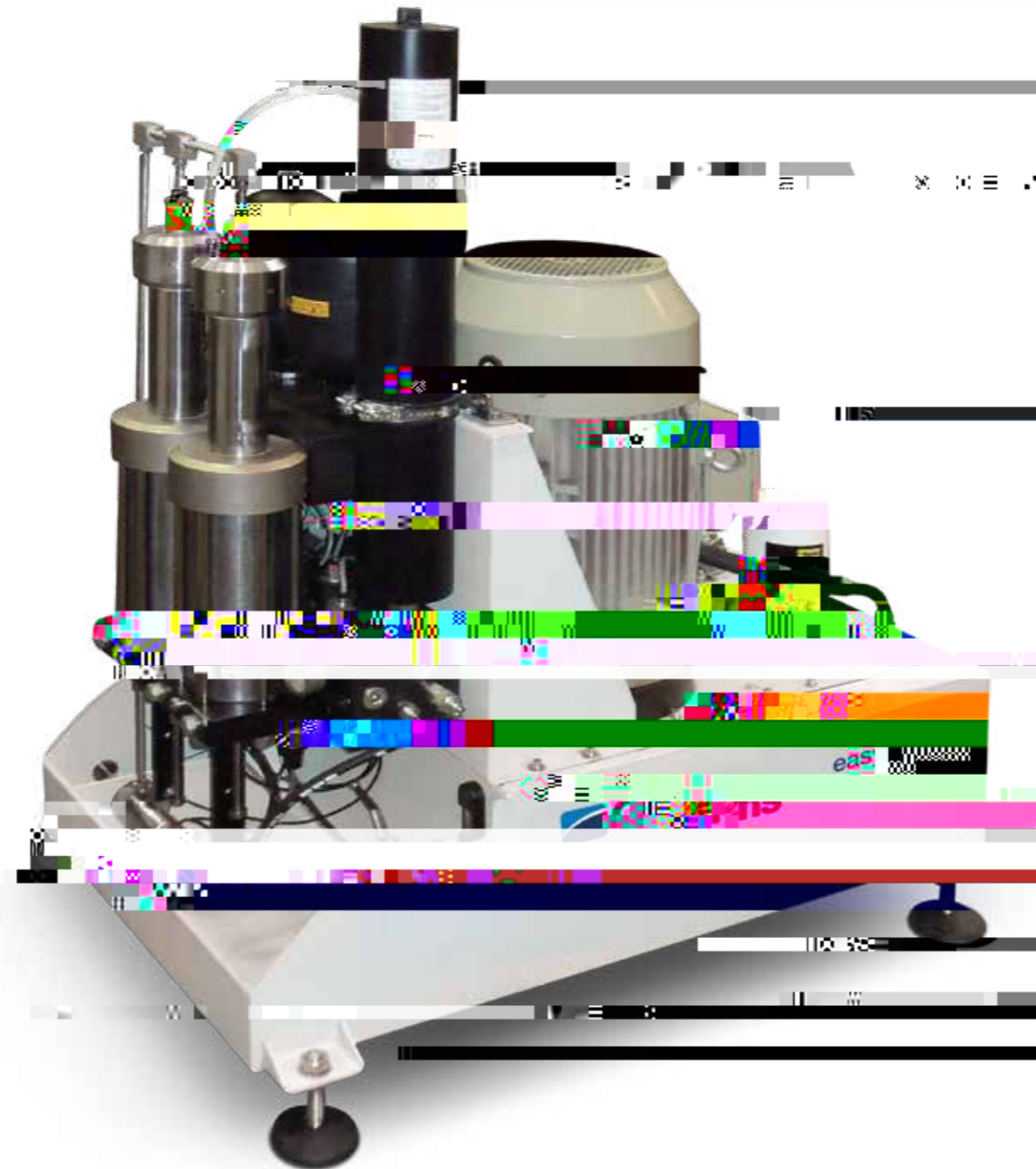
Fig. 2 CMS parallel cylinders intensifier



Nitrogen accumulator for managing the hydraulic cylinders return circuit



Pressure check and functioning of the intensifier managed directly from the console



Pressure multipliers



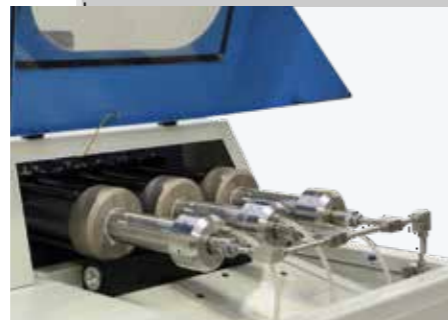
Gear hydraulic pump



"Noiseless" system

PRESSURE INTENSIFIER ENTIRELY MADE BY CMS

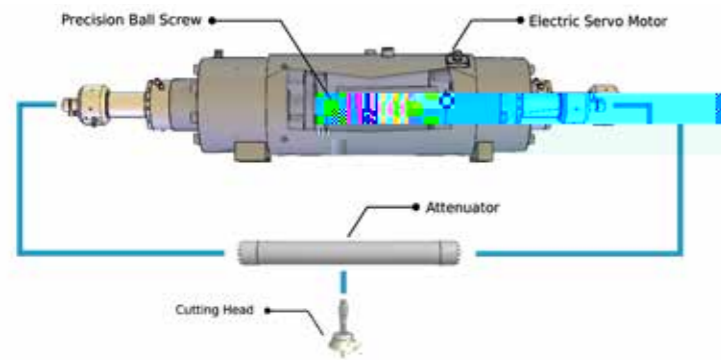
CMS brought about a new concept in ultrahigh pressure intensifiers, enhanced by technological solutions designed to satisfy the needs of most demanding users. This new technology is based on an intensifier equipped with several pressure multipliers independent, parallel and electronically synchronized. This innovative solution results in an everconstant pressure avoiding any drops typical of traditional opposecylinder intensifiers.



Software-based electronic control of cutting pressure

THE HIGHEST LEVEL OF EFFICIENCY WITH MAXIMUM SAVING

Greenjet Evo is the revolutionary high performance electric pump; thanks to an extremely efficient servomotor torque, the pressure signal



EASYJET DDX

SOFTWARE

Easyjet is a complete CAD/CAM suite for all-round management of every aspect of the 3 and 5-axis waterjet machining, that eliminates purchasing costs, maintenance and training of further third-party software products.

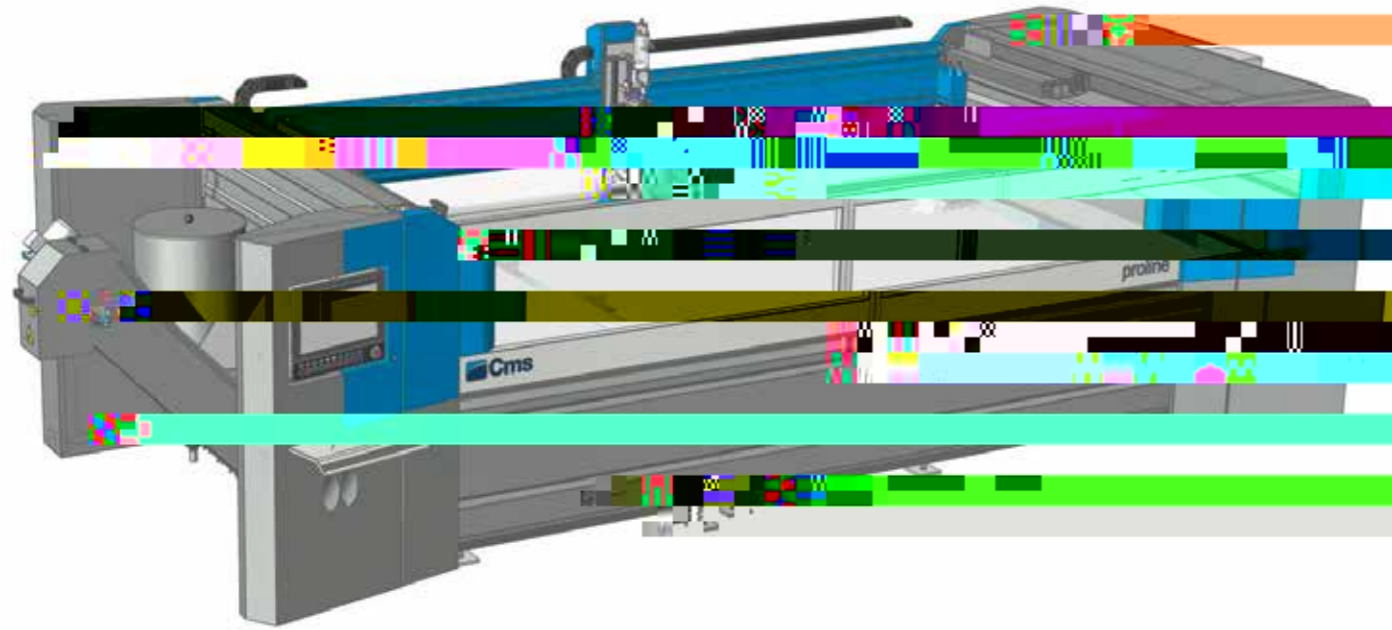
THE GENERAL FUNCTIONS INCLUDE:



EASYLINE: TECHNICAL DATA				
MODEL	1010	2020	2040	2060
X AXIS	1000 mm	2000 mm	4000 mm	6000 mm
Y AXIS	1000 mm	2000 mm	2000 mm	2000 mm
Z AXIS	220 mm (150 mm with 5-axis head)	220 mm (150 mm with 5-axis head)	220 mm (150 mm with 5-axis head)	220 mm (150 mm with 5-axis head)
B AXIS	+/- 60°	+/- 60°	+/- 60°	+/- 60°
SUPPORT PLANE				

PROLINE

TECHNICAL DATA



PROLINE: TECHNICAL DATA		
X AXIS STROKE (1 HEAD)	3250 mm	4250 mm
Y AXIS STROKE	1700 mm	2000 mm
Z AXIS STROKE (3-AXIS HEAD)	300 mm	300 mm
Z AXIS STROKE (5-AXIS HEAD)	200 mm	200 mm
C AXIS (5 AXIS ONLY)	In nite	In nite
B AXIS (5 AXIS ONLY)	± 62°	± 62°
XY AXIS RAPID SPEED	40000 mm/min	40000 mm/min
WORKTABLE SIZE XY	3820 x 1920 mm	4820 x 2220 mm
WORKTABLE LOAD CAPACITY	1000 kg/m2	1000 kg/m2
POSITION ACCURACY	± 0,035 mm	± 0,035 mm
POSITION REPEATABILITY	± 0,025 mm	± 0,025 mm
INSTALLED POWER	6 kW	6 kW
FOOTPRINT LXPXH	6930 x 3180 x 3900 mm	7290 x 3480 x 3900 mm
WEIGHT MAX (EMPTY)	6500 kg	8000 kg

CM the IoT platform perfectly integrated with the latest-generation CMS machines

CMS C c ab c n mc c I TA a a ac
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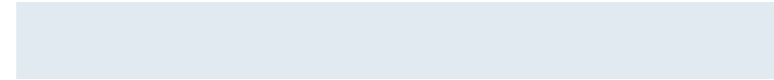


SMART MACHINE:

U U

Status: U

State: [information on:](#)





INDUSTRIAL MACHINERY

Standalone machines, integrated systems and services dedicated to the processing of a wide range of materials.





C.M.S. SPA

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