



CMS is part of SCM Group, a technological world leader in processing a wide range of materials: wood, plastic, glass, stone, metal and composites. The Group companies, operating throughout the world, are reliable partners of leading manufacturing industries in various market sectors, including the furniture, construction, automotive, aerospace, ship-building and plastic processing industries. SCM Group coordinates, supports and develops a system of industrial excellence in 3 large highly specialized production centres employing more than 4,000 workers and operating in all 5 continents. SCM Group: the most advanced skills and know-how in the fields of industrial machinery and components.

CMS SpA manufactures machinery and systems for the machining of composite materials, carbon fibre, aluminium, light alloys, plastic, glass, stone and metals. It was established in 1969 by Mr Pietro Aceti with the aim of offering customized and state-of-the-art solutions, based on the in-depth understanding of the customer's production needs. Significant technological innovations, originating from substantial investments in research and development and take-overs of premium companies, have enabled constant growth in the various sectors of reference.



CMS Plastic Technology produces numerically-controlled machining centres and thermoforming machines for the working of plastic materials, offering technologically advanced solutions. The brand originates from the winning synergy between the technical-industrial expertise in thermoforming of the historical company Villa, established in 1973, and CMS' historical know-how in milling. Thanks to constant investments in research and innovation, **CMS Plastic Technology** is recognized as unique partner for the whole process: from thermoforming to trimming to the realization of models and moulds, ensuring maximum productivity. **CMS Plastic Technology** is in the forefront of manifold sectors, such as: automotive, aerospace, earth-moving machinery, caravans, buses, railway industry and production of bathtubs.

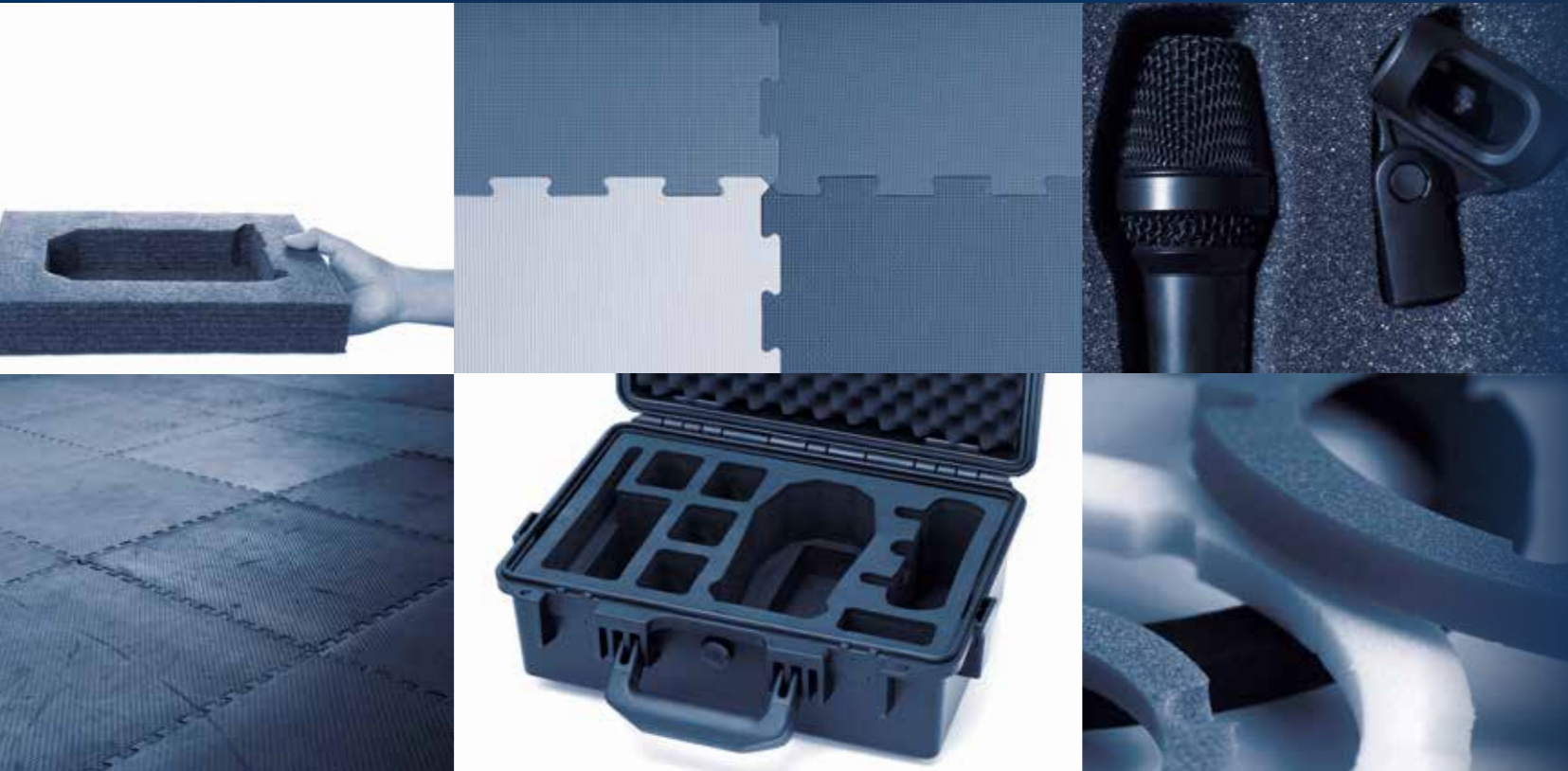


waterjet

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APPLICATIONS



furnishings | logistics | consumer goods



industrial | transport

Unparalleled.
New.
Innovative.
Quality.
Ultra.
Effective solutions.

The **UNIQUE** waterjet cutting machines.

Waterjet cutting systems

WATERJET MACHINES FOR PLASTIC PROCESSING

TECNOCUT SMARTLINE

The Smart solution for high volume production thanks to the multi-head configurations



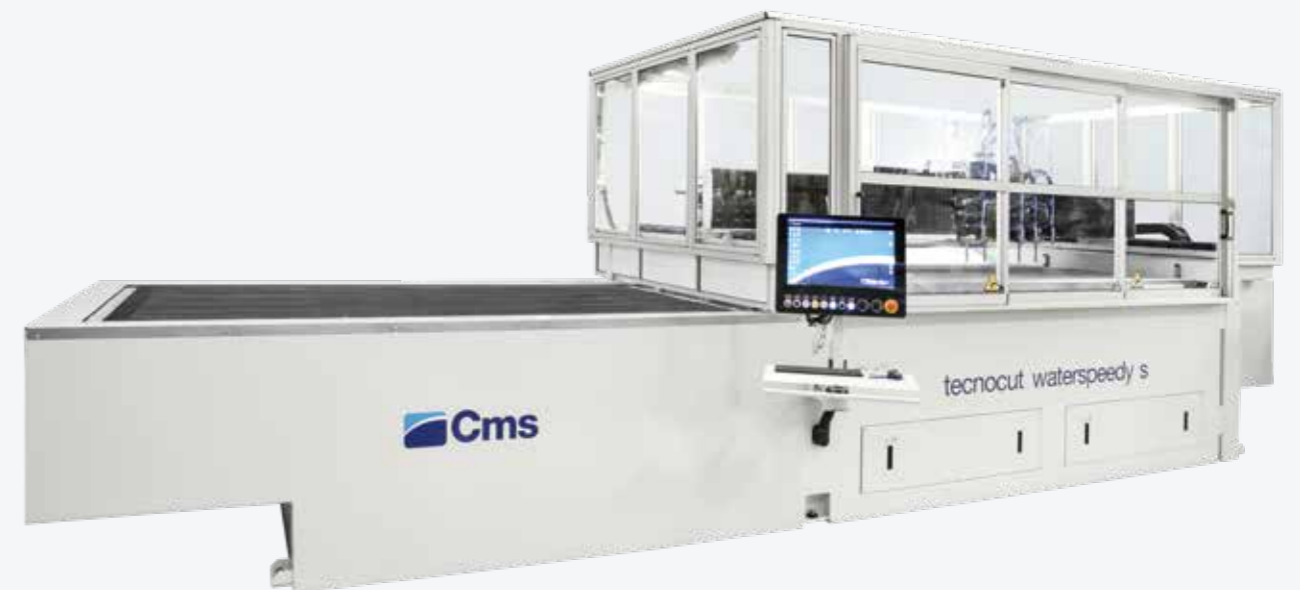
TECNOCUT PROLINE

The highest technologically advanced solution for the most demanding applications



TECNOCUT AQUATEC

The strongest modular solution on the market for processing large shapes



TECNOCUT WATERSPEEDY S

The only solution on the market for high production volumes that combines efficiency, versatility and excellent cleanliness in the work environment

TECNOCUT SMARTLINE

TECHNOLOGICAL ADVANTAGES

3 AND 5-AXES WATERJET CUTTING SYSTEM

Tecnocut Smartline has been designed to redefine the industry's standards of excellence by improving operating efficiency, while simultaneously maintaining CMS' renowned reputation for construction quality and unparalleled work. Ideal for plastic cutting, it has all the safety and performance features typically of CMS waterjet machines, encapsulated in a new innovative and compact design. These features guarantee excellent finishing with a high level of accuracy with excellent productivity.

- Wide configurability of the work areas (single area or pendular)
- Excellent productivity with the option of 5 cutting heads.
- The movement of the X-Y-Z axes occurs with the pinion on tempered and ground racks.
- The heat sealed bellows guarantee ideal protection to the racks and sliding guides on the X axis against dust and water and processing water. For the Y axis, protection is guaranteed by a sheet metal labyrinth structure.
- The carpentry structure undergoes a rust-proofing treatment using sandblasting and ceramic painting to guarantee greater duration against corrosion.
- Tank ready for the installation of a dredging system to remove used abrasive material.
- Control software integrated into the control that allows the operator to optimize cutting parameters by reducing waste to a minimum. The setting times for the cut on complex shapes is dramatically reduced without compromising the finishing quality and precision.



KEY BUYER BENEFITS

- + Maximum loading ergonomics, the monolithic compact and open frame structure simplifies the loading and unloading of processed pieces.
- + The high-pressure spray of water allows you to easily cut very thick pieces, create holes and complex shapes and reduce the scrap from nesting on a flat sheet thanks also to the manual and automatic interaxis multi-head configurations
- + The waterjet technology offers a unique tool, that requires no complex set-ups for the support of pieces. Furthermore, the 5-axis version allows you to make high precision 3D cuts and repetitions.
- + The waterjet cut is a cleaning process that does not generate dust or airborne residue. The collection tank is compatible with the Evo4 dredging system to remove used abrasive, that reduces the cost of maintenance by 90%.



Console on a mobile trolley with 21.5" touch screen.



Control panel integrated into the base of the tank to reduce bulk on the ground.



Photo-electric barriers: protection of work area with photocell devices.

TECNOCUT PROLINE

TECHNOLOGICAL ADVANTAGES

HYDRO-ABRASIVE WATERJET CUTTING MACHINING CENTERS

Tecnocut Proline was conceived and designed to meet the needs of the aeronautic, automotive, mold and design industry, guaranteeing the processing of medium-large size components in plastic materials. Its compact dimensions mean it can easily slot into any production environment, while simultaneously dealing with a vast volume of work. A genuine machining center, designed with specific solutions for waterjet technology to the extent that it guarantees superior technological performance.

- Precisions suited to the strictest applications (aerospace, motorsport, automotive, design, etc).
- The gantry structure with extremely solid fixed strut can guarantee maximum precision over the years, thanks to tempered and ground racks and spiral pinions combined with reducers with a high precision level.
- Compact bulk: the newly designed structure allows for the integration of the abrasive material motor and pressure intensifier normally installed on the ground.
- Stainless steel base arranged for the removal of used abrasive material by dredging, rotating axes for processing pipes and automatic water level.
- 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.



KEY BUYER BENEFITS

- + The monolithic structure with protection hatches of the work area and adjustment of the water level allow noise and water/abrasive material reverberations to be reduced when cutting.
- + The high-pressure spray of water allows you to easily cut very thick pieces, create holes and complex shapes and reduce the scrap from nestings on a flat sheet thanks also to the manual and automatic interaxis multi-head configurations.
- + The waterjet technology offers a unique tool, that requires no complex set-ups for the support of pieces. Furthermore, the 5-axes version allows for 3D cutting with high precision and repetitions.
- + No dust or airborne residue is generated with the waterjet cut. The collection tank is compatible with the Evo4 dredging system to remove used abrasive, that reduces the cost of maintenance by 90%.



Remote 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 safety doors with pneumatic movement to protect the cutting area and reduce the dispersion of water and abrasive material.

TECNOCUT AQUATEC

TECHNOLOGICAL ADVANTAGES

3 AND 5-AXES HYDRO-ABRASIVE WATERJET CUTTING SYSTEM

Tecnocut Aquatec is a waterjet system with an advanced, high performing and versatile hydro-abrasive head, capable of meeting the most varied production demands in different fields of application, guaranteeing highly precise cuts.

Aquatec was designed along the lines of CMS philosophy: the machine is the result of experience acquired in the automotive, aerospace, naval and design sectors. The structure and technical solutions adopted, together with the selected components, ensure a high level of finishing, high processing speeds, reliability, structural rigidity, flexibility of use and excellent productivity.

- Excellent configurability designed ad hoc around real customer demands.
- Mobile gantry load-bearing structure on very thick separate steel shoulders, rests on tracks anchored to the ground, ensuring maximum structural rigidity. This solution guarantees the best finishing even on more complex, difficult processes.
- The movement, including that of the cutting head, is done on tempered and ground racks activated with brushless motors.
- The steel casing system and teflon polyurethane bellows, guarantee protection to the moving parts against water and dust from the processing.
- Thanks to its structure that leaves 2 or 4 sides free on the worktable, sheet loading/unloading is easier as is inspection of the processing material, as well as allowing for the installation of specific equipment to move the pieces.



KEY BUYER BENEFITS

- + The waterjet cutting parts do not require additional re-processing and do not create thermally deformed areas, reducing the cycle times and waiting times throughout the production process.
- + The waterjet technology offers a unique tool, that requires no complex set-ups for the support of pieces. Furthermore, the 5-axes version allows for 3D cutting with high precision and repetitions.
- + The structure with wide rail and modular shoulders allow for configurations with plenty of space around the tank to simplify loading and unloading.
- + The waterjet cut is a clean process that does not generate dust or airborne residue. The collection tank is compatible with the Evo4 dredging system to remove used abrasive, that reduces the cost of maintenance by 90%.



Console on a mobile trolley with 21.5" touch screen.



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



Maximum configuration flexibility thanks to the modular structure.

AWJ WATERJET MACHINE CONFIGURATION

STANDARD

AUTOMATIC HOSE REEL

Air and water sprayer kit to clean table and material after the cut. (option only for tecnocut smartline)



3-AXIS 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.



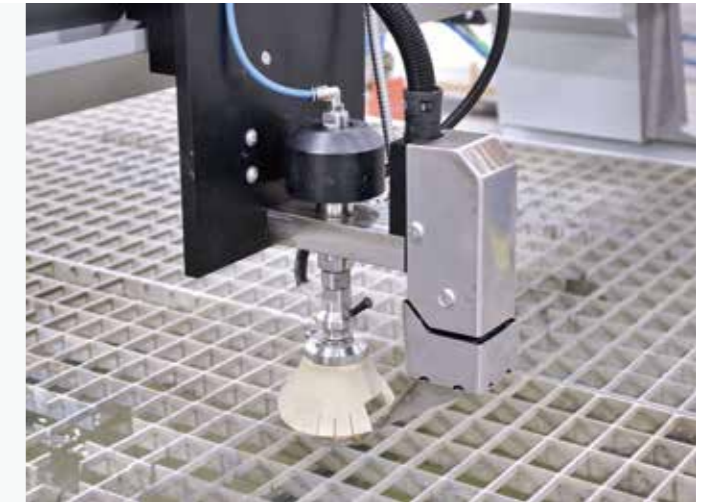
ELECTRONIC ABRASIVE HOPPER

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.

AWJ WATERJET MACHINE CONFIGURATION

OPTIONALS

JD5AX



JD5ax's features open up new cutting opportunities on a wide range of materials, maximizing the operational flexibility of the 5-axis Waterjet CMS systems and ensuring very high standards of accuracy and quality of pieces obtained by an abrasive waterjet. With the innovative JD5ax head it's possible to get lower value of conicity, ensuring high finishing quality and size tolerance. JD5ax is made of an infinite rotation axis (C), an entirely new feature, and a tilting axis (B) up to $\pm 62^\circ$, all designed and produced by the CMS engineers.

SPECIFICATIONS

- Compact design
- Cutting from 0° to 62°
- Automatic taper compensation (JDC)
- Patented abrasive injection
- New touch probe with incorporated anticollision detection
- Infinite HP joint rotation
- Compatible with the latest orifices
- Reduced mechanic components subjected to fatigue
- Monitoring of cutting components wear
- Direct drive servomotors

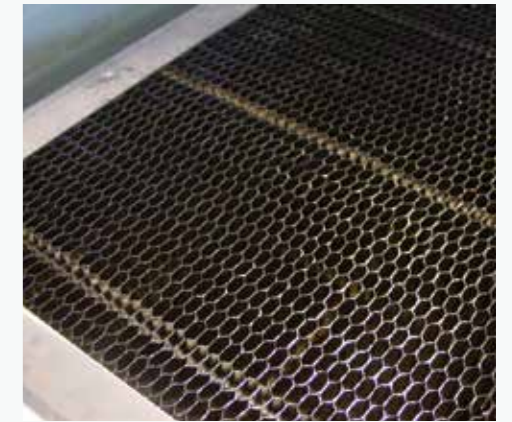
BENEFITS

- Infinite rotation for nesting cut without breakpoints
- High positioning accuracy
- High mechanical strength
- High cutting speeds and accelerations
- Taper compensation up to 60° tilt angle
- 3D machining
- Possibility to carry out countersinking and chamfering for ready-to-weld profiles
- Easy maintenance

WORKING TABLES



Anti-reflective surface (opt)



Stainless steel honeycomb table

DREDGING SYSTEM

Dredging system for "no maintenance" abrasive removal. The removal system inside the tank is protected both by baskets for collecting scraps and by a metal cage. The tank is ready to install a dredge system for the abrasive removal.



ACQUISITION OF THE ORIGIN CUTTING POINT: CROSS LASER
Cross laser pointer to simplify the setting of one or more points of origin of work commencement on the sheet positioned on the cutting table.

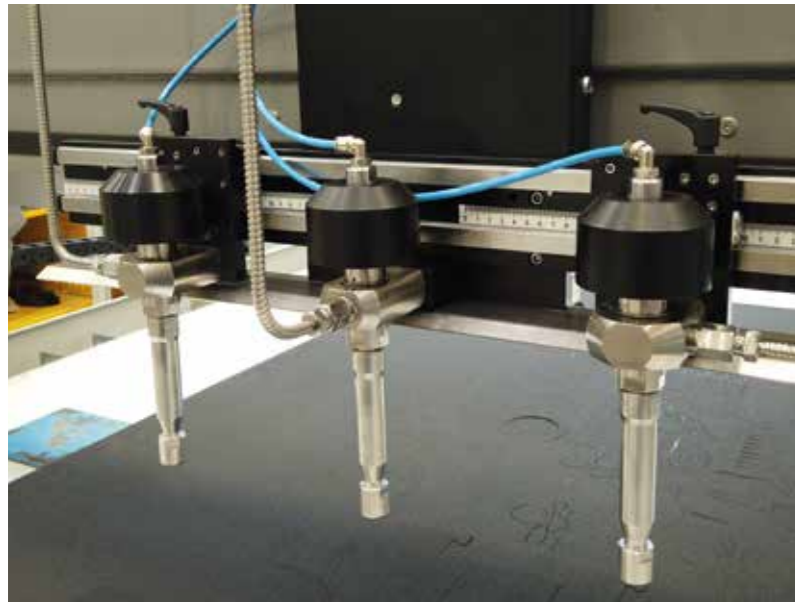


TENOCUT SMARTLINE

OPTIONALS

CLEANING SYSTEM OF THE CUT PIECE

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



MANUAL CUTTING 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.

Available in automatic/motorized interaxis version.



DRILLING UNIT

Pneumatic unit controlled by NC with maximum rotation of 25,000 rpm (free speed) to deal with composite and multilayered materials, that easily delaminate when piercing with a high-pressure water jet.

The high rotations allow for a reduction in drilling times without damaging the material, by optimizing the cutting cycle in combination with the processing strategies that can be set using our software.



Division barriers with photocell and specific enclosures in combination with management software of the work area in 2 zones (front and rear) to use the system in swing cycle.



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



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

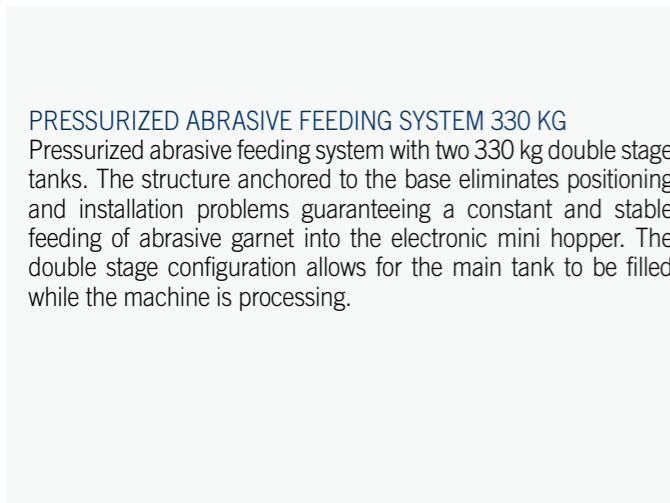
TENOCUT PROLINE

STANDARD ACCESSORIES



HELICAL RACK AND PINIONS

The X and Y axes have tempered and ground racks and helical pinions to guarantee high dynamic performance while maintaining high precision positioning standards and repeatability. In combination with the absolute encoders, they allow the machine to start up without the need to reset axes and to restore the axes from the last cutting position.



PRESSURIZED ABRASIVE FEEDING SYSTEM 330 KG

Pressurized abrasive feeding system with two 330 kg double stage tanks. The structure anchored to the base eliminates positioning and installation problems guaranteeing a constant and stable feeding of abrasive garnet into the electronic mini hopper. The double stage configuration allows for the main tank to be filled while the machine is processing.



OPTIONALS



KIT ERGONOMY+ A combination of technical solutions to improve operation with the waterjet system and facilitate routine inspection and maintenance on high-pressure components such as the cutting head and intensifier.

The kit includes:

- LED lights in the electrical cabinet
- LED lights under the beam
- IP-LAN camera to monitor the work area, even remotely
- Tool boxes and removable consumables built into the machine frame

TENOCUT PROLINE

OPTIONALS



DRILLING UNIT

Pneumatic unit controlled by NC with maximum rotation of 25,000 rpm (free speed) to deal with composite and multilayered materials, that easily delaminate when piercing with a high-pressure water jet.

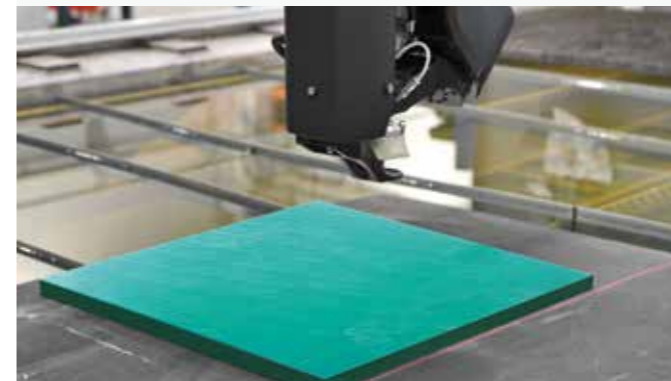
The high rotations allow for a reduction in drilling times without damaging the material, by optimizing the cutting cycle in combination with the processing strategies that can be set using our software.



AUTOMATIC TCP DETECTION

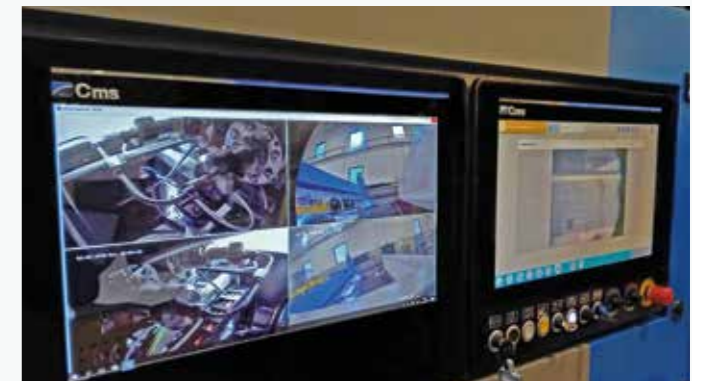
Automatic cutting head alignment laser detection system with regard to the C axis and B axis rotation center for the purpose of:

- compensating the misalignment of the cutting head in the event of a strong collision
- calculating the XY positions on the focusing device precisely before performing processings with particular requirements of narrow tolerances. The device is housed on a tray hidden in the base that can be automatically removed on a guide with ball runner blocks to guarantee reliable and accurate measurements.



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

Innovative digital system to search for and acquire the cutting point of origin on the material loaded onto the worktable, using a camera positioned inside the operating unit capable of framing the work area around the cutting head.

The device makes the set up and preparation of the cutting process faster directly from the touch control panel on the machine, keeping the machine safe in the presence of an automatic hatch and in the case of front protection photocells.



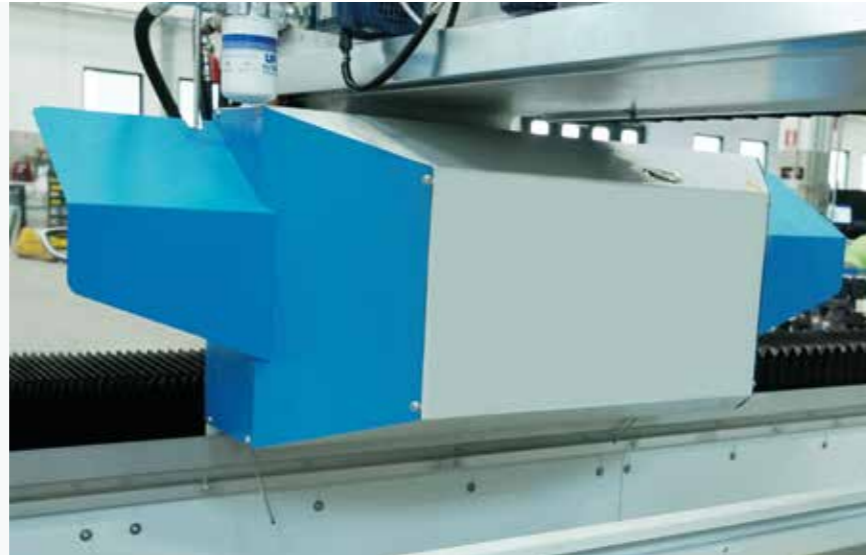
TENOCUT AQUATEC

OPTIONALS



DRILLING UNIT
 CNC controlled pneumatic drilling unit for Z axis.
 It can be adjusted on the Z axis (from 0 to 30 mm) to house different drilling points. The drilling unit can be installed on the version with one or two Z axes.

ELECTRIC INTENSIFIER ONBOARD THE CROSSBEAM
 Positioning of the 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.



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.

TENOCUT AQUATEC

OPTIONALS



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.

Double tank solution for pendular working.



TECNOCUT WATERSPEEDY S

TECHNOLOGICAL BENEFITS

WATERJET CUTTING SYSTEM

Tecnocut Waterspeedy S is a waterjet system designed specifically for the high-speed processing of plastics capable of providing an exceptional movement dynamic to guarantee top level productivity. Ideal for cutting flexible material like plastic, expanded materials, rubber, composite materials, layered materials, industrial seals and technical material. The advanced design of its structures, the result of continuous investments in R&D and the sophisticated technological solutions adopted, provide precision over time, speed and flexibility to guarantee an exceptional level of finishing and unparalleled accuracy.

- The exceptionally high dynamism, combined with the possibility of working on several cutting heads guarantee a very high level of productivity and competitive costs compared to conventional cutting systems.
- Loading/unloading while the machine is running thanks to an automatic, built-in pallet change system.
- Large scale work areas for maximum productivity freedom.
- The compact design allows for movement and transport without removing any mechanical part, guaranteeing reduced times for putting it back in service.
- Programming system dedicated to the optimized generation of the cutting path. Based on interactive software and touch screen to manage all the CNC functions. It allows the cutting program to be created starting from the integrated software and a DXF file by reducing the cycle time to a minimum.



KEY BUYER BENEFITS

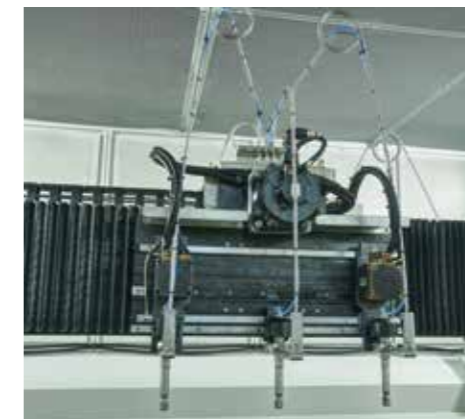
- + Racks and spiral pinions guarantee unparalleled performance with a high speed of 70 m/min and acceleration of 7 m/s².
- + Cutting configuration from 3 up to 7 3-axes heads, pure waterjet, CN controlled automatic interaxis to meet production demands linked to nesting of sheet metal and roll expanded products.
- + Sound-proof cabin to protect the cutting area, prevent any contact with moving mechanical parts and from any water or dust escaping.
- + Separate loading and unloading zones with automatic movement of pallets via servomotor to eliminate loading and unloading down-times. Both pallets have a stainless steel alveolar table.



SUPPORT TABLE
Alveolar grate in stainless steel for cutting plastic material.



MOVEMENT
High precision and performance rack and pinion transmission.



CUTTING HEADS
Additional pure waterjet cutting heads with 3 or 5 head trolleys.



AUTOMATIC PALLET CHANGE
Separate loading and unloading areas with automatic pallet movement via servomotor.

TECNOCUT WATERSPEEDY S

STANDARD



STEAM SUCTION
Suction system to extract steam with an absolute HEPA 99.997% filter located on the side of the machine.

DRAINAGE WATER FILTERING SYSTEM
An automatic system conveys the waste to the back of the machine where a paper filter with a collection tank cleans the waste water.



AUTOMATIC TANK CLEANING SYSTEM
A set of nozzles positioned inside the tank that allow for processing debris to be conveyed to the external drainage filter



TECNOCUT WATERSPEEDY S

OPTIONALS



MULTI-HEADS
Additional pure waterjet cutting heads with 3 or 5 heads, all with automatic adjustment interaxis to achieve high performance when cutting. The distance between the heads is CN controlled. Optional: double trolley for maximum productivity.

AUTOMATIC INTERAXIS TECHNICAL DATA

	NO. 3-AXIS HEADS		NO. 5-AXIS HEADS	
	STANDARD CARRIAGE	WIDE CARRIAGE	STANDARD CARRIAGE	WIDE CARRIAGE
Minimum interaxis	85	100	85	100
Maximum interaxis	340	800	170	400

PRESSURE INTENSIFIERS

TECNO CUT JETPOWER EVO

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



TECNO CUT E-PUMP

The latest innovation in the range of CMS intensifiers, it exploits an electrohydraulic unit connected directly to long-stroke pressure multiplier cylinders

TECNOCUT JETPOWER EVO

HIGH-PRESSURE INTENSIFIER

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.

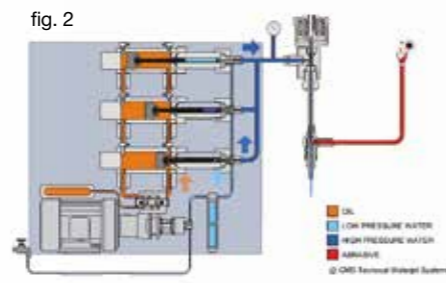
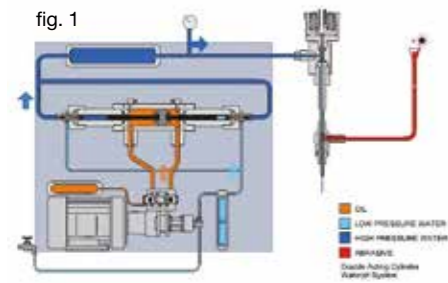
KEY BUYER BENEFITS

- + 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.
- + Reduction of oil consumption and operating costs: Water flow rate up to 5 l/min to satisfy a wide range of cutting applications, adapting the oil consumption thanks to an independent variable flow pump for hydraulic circuit.

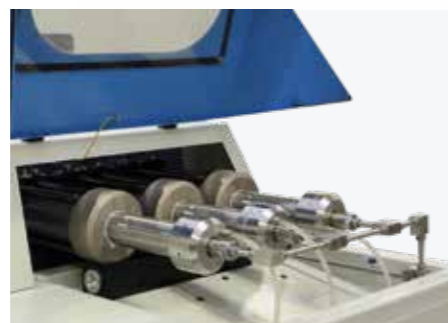
fig. 1 Traditional opposing-cylinders intensifier

fig. 2 CMS parallel cylinders intensifier

Pressure



Software-based electronic control of cutting pressure



Pressure multipliers



Hydraulic unit



Oil/air heat exchanger

TECNOCUT E-PUMP

TECHNOLOGICAL BENEFITS

HYBRID INTENSIFIER

Tecnocut E-pump is the latest innovation in the range of CMS intensifiers created as a continuation of the quest by CMS for efficiency, performance, energy consumption and low environmental impact in the world of pressure intensifiers for waterjet cutting applications.

This new project was carried out entirely in the CMS engineering department and has given rise to an innovative product that combines the power density of a hydraulic pump with the energy efficiency of a direct-drive mechanical architecture.

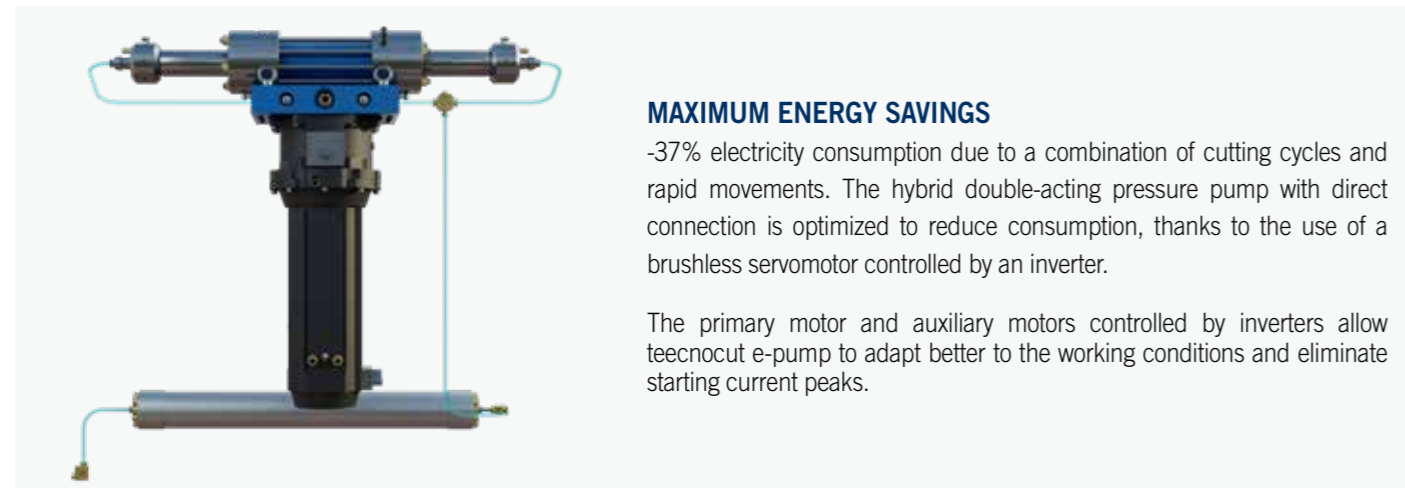
The simplicity of the system translates into a significant reduction in components: up to 95% compared to a conventional hydraulic intensifier. Tecnocut E-pump exploits an electrohydrostatic unit connected directly to long-stroke pressure multiplier cylinders, achieving an operating efficiency of more than 31% compared to hydraulic intensifiers.

The intensifier has an on-board intelligence with portable tablet (Wi-Fi) and touch display for monitoring and controlling operating parameters and performing diagnostics on hydraulic and high-pressure components.

Tecnocut e-pump can be installed on any cutting table, even third-party ones.

KEY BUYER BENEFITS

- + High efficiency level: up to 31% more than conventional intensifiers.
- + Low maintenance, thanks to the use of 95% fewer hydraulic components.
- + Minimal use of hydraulic oil: -91% compared to conventional systems, with the benefit of lower environmental impact
- + Electricity consumption up to 37% lower due to a combination of cutting cycles and fast, closed-head movements



MAXIMUM ENERGY SAVINGS

-37% electricity consumption due to a combination of cutting cycles and rapid movements. The hybrid double-acting pressure pump with direct connection is optimized to reduce consumption, thanks to the use of a brushless servomotor controlled by an inverter.

The primary motor and auxiliary motors controlled by inverters allow tecnocut e-pump to adapt better to the working conditions and eliminate starting current peaks.

WI-FI TABLET WITH WEB HMI

The intensifier is controlled by an industrial PLC in the electrical cabinet in order to interface with CMS cutting tables, as well as third party ones.



The HMI control interface is accessible from the 10.4" Wi-Fi tablet and offers:

- remote diagnostics
- power management and control
- management and control of the cycle number per cylinder
- electronic cutting pressure control



CENTRAL SEAL LEAKAGE COLLECTION SYSTEM

An external manifold to collect leaks from HP seals, for easy and quick diagnostics without the need to open the covers. Depending on the location of the leak, it is possible to identify on which side it is and whether it is from static or dynamic seals. Two status green leds identify the running multiplier.



BOOSTER PUMP

Inverter-powered booster pump for the inlet water supply, to optimize consumption by adapting to the mains water flow and pressure as well as to the cutting cycle (open/closed head). It is compatible with frequencies of 50 Hz and 60 Hz.

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:

- Graphic management of the zoom and shift tools
- 3D and photo-realistic rendering of the project
- Functions to measure the profile and analysis of the individual entities
- Functions to delete and reset the most recent operations
- Option to configure the parameters database on-line to share it with numerous software stations
- Automatic e-mail management to request assistance
- Python Module and Scl included to customise software and interface with other systems

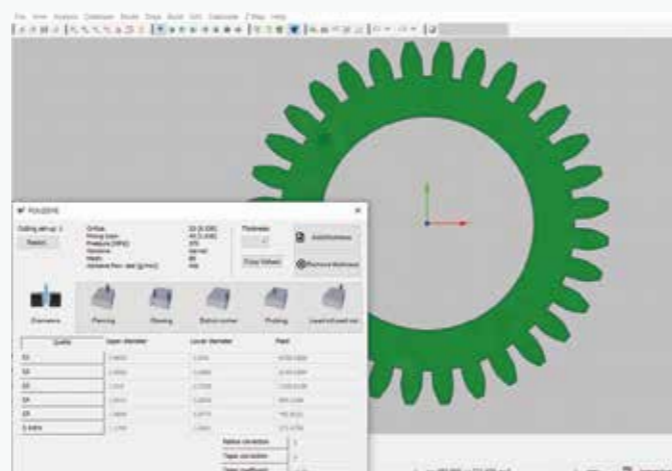
THE CAD FUNCTIONS INCLUDE:

- Free drawing of geometrical entities like arches, lines, polylines, rectangles, squares, ellipses, circles, regular polygons, radii, clippings, nurbs, etc..
- Advanced surface drawing (loft, swept, polimesh, gordon) curve grid surface drawing
- PNT importing
- Definition of the surface using a point file elaborated by a laser scan
- Interactive change of surfaces, even complex ones, to insert chamfers, trimmings, insertion of sloping sides etc..
- Definition of construction tables
- Associating different colours to each tool path
- Change and elaboration of projects (shearing, extension, subdivision, union, interpolation, duplicate, symmetrical, rotation, deletion, etc.)
- Importing DXF, ISO, IGES, STEP, PARASOLID, 3DM and STL files
- Dimensioning

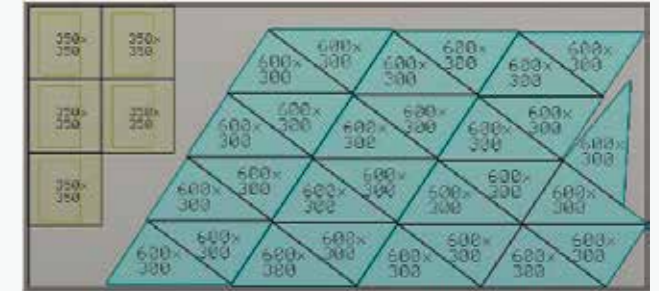


THE CAM FUNCTIONS INCLUDE:

- Automatic generating of cutting paths with WaterJet head
- Automatic generation of input and output paths, boring included with interactive graphic change (optional)
- Continuous automatic management of the feeling cycles, at the start of the profile or the sole detection of the plate thickness
- Interpolated 5-axis control + 1
- Estimating project times and costs.
- Production of the ISO program optimised for the CNC
- Cutting management in common with the different algorithms to optimise the tool path
- Cutting with semi-automatic technology in the space.
- Automatic and/or custom-designed optimisation of the machining sequence to reduce cycle times.
- Automatic and/or manual management of the micro-joints and bridges.
- Cam-Auto module to automatically and intelligently create machining technology

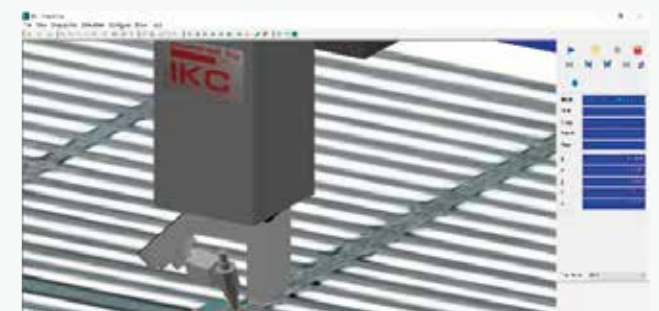


In addition, the Easyjet software has powerful, fast multiple nesting algorithms in the work area, even with entities that differ from one another, with the possibility of graphically changing the arrangement of the objects and defining customised points of origin.



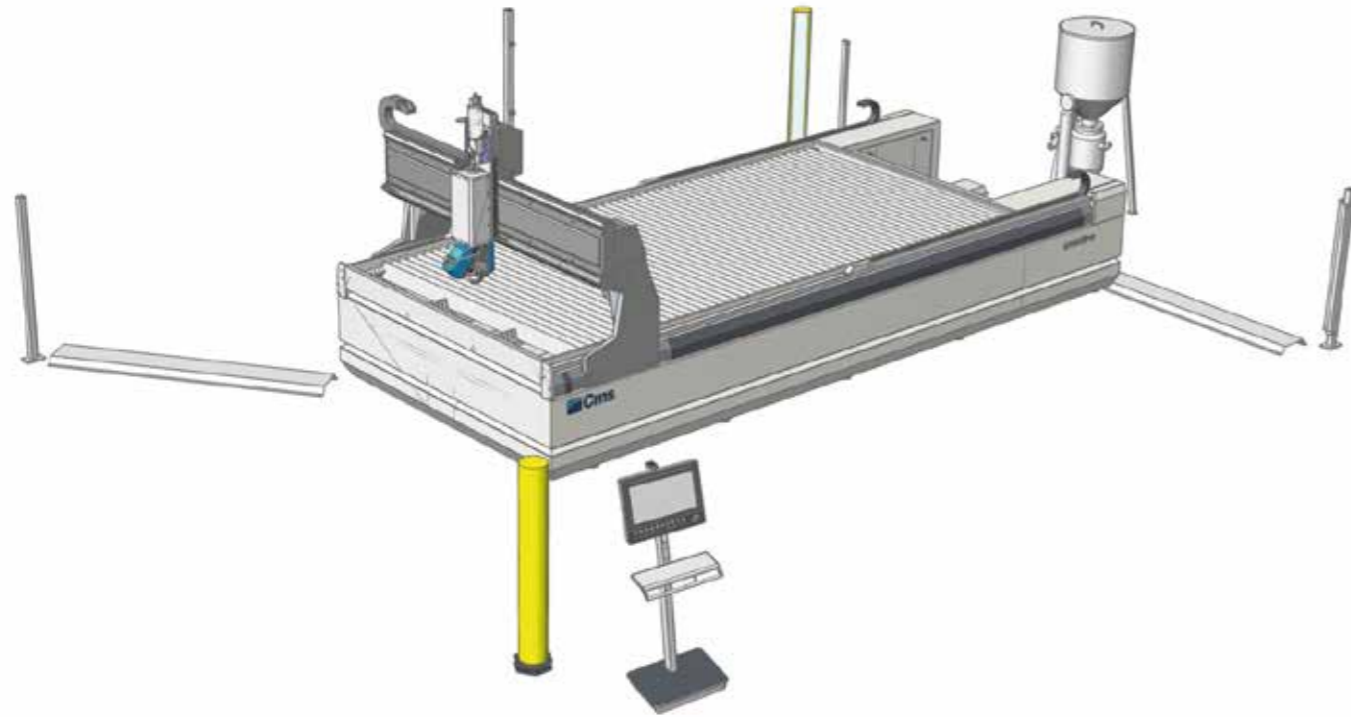
The JDE plug-in is included in the package to manage the cutting technologies archived in a complete materials database. The machine program is automatically generated on the basis of the selection of the cutting quality required out of 5 options (Q1, Q2, Q3, Q4 and Q5) that establish the speed advancement and acceleration settings in the internal/external corners. The ISO program can then be transferred to the machine using the local network or via USB drive.

The correct setting of the machining parameters can be checked in advance thanks to the 3D simulation of the machining process using a 3D graphic model of the CNC that reproduces the table, handling axes, tool and piece arranged on the table.



TECNOCUT SMARTLINE

OVERALL DIMENSIONS AND TECHNICAL DATA



TECNOCUT SMARTLINE: TECHNICAL DATA

MODEL	2030	2040	2060
X AXIS	3000 mm	4000 mm	6000 mm
Y AXIS	2000 mm	2000 mm	2000 mm
Z AXIS	250 mm (150 mm with 5-axis head)	250 mm (150 mm with 5-axis head)	250 mm (150 mm with 5-axis head)
C AXIS	Infinite	Infinite	Infinite
B AXIS	+/- 60°	+/- 60°	+/- 60°
SUPPORT PLANE	3330 x 2080 mm	4150 x 2080 mm	6610 x 2080 mm
OVERALL DIMENSIONS WITH LIGHT BARRIERS	4560 x 6140 mm	4560 x 7190 mm	4560 x 10050 mm

TECNOCUT PROLINE

OVERALL DIMENSIONS AND TECHNICAL DATA

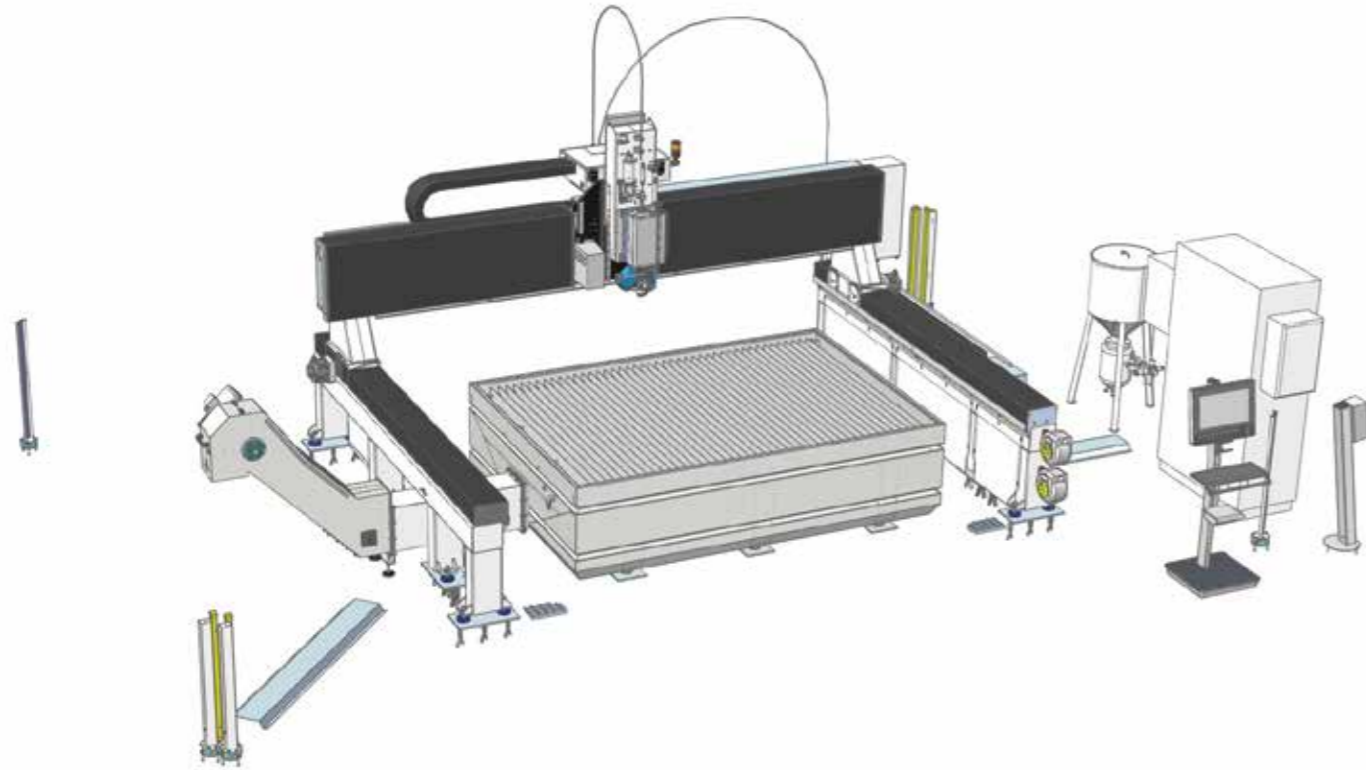


TECNOCUT PROLINE: TECHNICAL DATA

MODEL	1730	2040
X AXIS	3250 mm	4250 mm
Y AXIS	1700 mm	2000 mm
Z AXIS	300 mm (200 mm with 5-axis head)	300 mm (200 mm with 5-axis head)
B AXIS	+/- 60°	+/- 60°
RAPID SPEED	40 m/min	40 m/min
ACCELERATION	1 m/s ²	1 m/s ²
SUPPORT PLANE	3379 x 2080 mm	4150 x 2080 mm
OVERALL DIMENSIONS WITH LIGHT BARRIERS	4520 x 4500 mm	7400 x 4500 mm

TECNOCUT AQUATEC

OVERALL DIMENSIONS AND TECHNICAL DATA



TECNOCUT AQUATEC: TECHNICAL DATA

MODEL	2030	2040	2060	3060
X AXIS	3800 mm	4000 mm	6000 mm	6000 mm
Y AXIS	2650 mm	2000 mm	2000 mm	3000 mm
Z AXIS	650 mm	650 mm	650 mm	650 mm
B AXIS	+/- 60°	+/- 60°	+/- 60°	+/- 60°
RAPID SPEED	54 m/min	54 m/min	54 m/min	54 m/min
ACCELERATION	2 m/s ²	2 m/s ²	2 m/s ²	2 m/s ²
SUPPORT PLANE	3210 x 2195 mm	4210 x 2195 mm	6210 x 2195 mm	6210 x 3195 mm
OVERALL DIMENSIONS WITH LIGHT BARRIERS	5765 x 7830 mm	5765 x 7830 mm	5765 x 12850 mm	5765 x 12850 mm

TECNOCUT WATERSPEEDY S

OVERALL DIMENSIONS AND TECHNICAL DATA



TECNOCUT WATERSPEEDY S: TECHNICAL DATA

MODEL	1630
X AXIS	3000 mm
Y AXIS	1600 mm
Z AXIS	300 mm (200 mm with 5-axis head)
B AXIS	+/- 60°
RAPID SPEED	72 m/min
ACCELERATION	6 m/s ²
SUPPORT PLANE	3000 x 1600 mm
OVERALL DIMENSIONS WITH LIGHT BARRIERS	10300 x 4956 mm

PRESSURE INTENSIFIERS

TECHNICAL DATA



TECNOCUT JETPOWER EVO: TECHNICAL DATA		
MODEL	JETPOWER EVO 40 HP	JETPOWER EVO 60 HP
POWER	30 kW	45 kW
MULTIPLIERS	2	3
MAX FLOW PRESSURE	4150 bar	4150 bar
MAX WATER PRESSURE	2,7 L/min	5 L/min
MAX ORIFICES DIAMETER	0,30 mm	0,40 mm
VOLTAGE	400V +/- 5% 50-60 Hz (Different voltages and frequencies on request)	



TECNOCUT E-PUMP: TECHNICAL SPECIFICATIONS *	
POWER CONSUMPTION (0.38 ORIFICE AT 3800 BAR)	30 kW
MAXIMUM POWER CONSUMPTION WITH CLOSED HEAD	2.4 kW
MAXIMUM OPERATING PRESSURE	4130 bar
MAXIMUM WATER FLOW RATE AT 3700 BAR	5 l/min
MAXIMUM ORIFICE DIAMETER AT 3700 BAR	0.40 mm
OVERALL DIMENSIONS L X W X H	1666x906x1529 mm
WEIGHT	1400 Kg
VOLTAGE (THREE-PHASE)	400 V 50/60 Hz
OIL TANK CAPACITY	13 L
PRESSURE ATTENUATOR CAPACITY	1.15 L
CYLINDER STROKE	200 mm
REQUIRED INLET WATER TEMPERATURE (ACCEPTABLE MIN - MAX)	5 - 25 °C
NOMINAL ENVIRONMENT TEMPERATURE (ACCEPTABLE MIN - MAX)	5 - 40 °C
NOMINAL NOISE	70 db

* BFT Technology. The technical data may vary with different configurations

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

CMS Connect is able to offer customised micro services through the use of IoT Apps that support the daily activities of industry operators - improving the availability and use of machines or systems. The platform displays, analyses and monitors all data from connected machines. The data collected by the machines in real time become useful information increase machine productivity, reduce operating and maintenance costs and cut energy costs.



CMS active a revolutionary interaction with your CMS machine

Cms active is our new interface. The same operator can easily control different machines as the CMS Active interfaces maintain the same look&feel, icons and iteration approach.



APPLICATIONS

SMART MACHINE: Section designed for the continuous monitoring of machine operation, with information on:

Status: machine status overviews. The representations provided allow machine availability to be checked - to identify possible bottlenecks in the production flow.

Monitoring: instantaneous, live display of the operation of the machine and its components, of currently running programs and potentiometers;

Production: list of machine programs run within a given timeframe with best time and average running time;

Alarms: active and historical warnings.

SMART MAINTENANCE

This section provides a first approach to predictive maintenance by sending notifications when machine components indicate a potentially critical state associated with reaching a certain threshold. In this way, it is possible to take action and schedule maintenance services, without any downtime.

SMART MANAGEMENT

Section designed for KPI presentation for all the machines connected to the platform. The indicators provided assess of the availability, productivity and

efficiency of the machine and the quality of the product.

MAXIMISED SECURITY

CMS Connect uses the standard OPC-UA communication protocol, which guarantees the encryption of data at Edge interface level. CMS Connect's Cloud and DataLake levels meet all state-of-the-art cyber-security requirements. Customer data are encrypted and authenticated to ensure total protection of sensitive information.

ADVANTAGES

- ✓ Optimisation of production performance
- ✓ Diagnostics to support components warranty optimisation
- ✓ Productivity increase and downtime reduction
- ✓ Improvement of quality control
- ✓ Maintenance costs down

EASY OF USE

The new interface has been especially developed and optimized to be immediately used via touch screen. Graphics and icons have been redesigned for user-friendly and comfortable navigation.

ADVANCED ORGANIZATION OF PRODUCTION

CMS Active enables configuring different users with different roles and responsibilities according to the operation mode of the machining center (e.g.: operator, maintenance man, administrator, ...).

It is also possible to define the work shifts on the machining center and then survey activities, productivity and events that have occurred in each shift.

ABSOLUTE QUALITY OF THE FINISHED WORKPIECE

With CMS Active the quality of the finished workpiece is no longer jeopardized by worn-out tools. The new Tool Life Determination system of CMS Active sends warning messages when the tool life is running out and recommends its replacement at the most appropriate time.

TOOL SET-UP? NO PROBLEM!

CMS Active guides the operator during the tool magazine set-up phase, also allowing for the programs to be run.



THE MOST ADVANCED SKILLS AND KNOW-HOW IN THE FIELDS OF MACHINERY AND INDUSTRIAL COMPONENTS

A technological world leader in processing a wide variety of materials: wood, plastic, glass, stone, metal and composites. The Group companies, operating throughout the world, are reliable partners of leading companies in various market sectors, including the furniture, construction, automotive, aerospace, ship-building and plastic processing industries.

SCM Group coordinates, supports and develops a system of industrial excellence in 3 large highly specialized production centres employing more than 4.000 workers and operating in all 5 continents.

INDUSTRIAL MACHINERY

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



Woodworking technologies



Technologies for advanced materials, plastic, stone, glass and metals processing



INDUSTRIAL PARTS

Technological components for Group and third party machines and plants and for the mechanical industry



Electrospindle and technological components



Electrical panels



Metalworking and mechanical machining



Cast Iron

SCM GROUP IN BRIEF

+700
Milioni/Euro
in consolidated
turnover

+4.000
people
in Italy and abroad

3 main
production
centres

A presence on **5**
continents that is
direct and widespread

7%
of turnover
invested in
R&D

THE CMS PLASTIC TECHNOLOGY

RANGE TO PROCESS PLASTIC MATERIAL

3/5 AXES MACHINING CENTERS (PASSAGE IN Z UP TO 500 MM)



TRACER



TIME



EVOTECH

5 AXES MACHINING CENTERS (PASSAGE IN Z FROM 500 MM)



ATHENA



ANTARES



ARES



GENESI

BEAM SAWS



HELIX

SAWS



T-MAXI

THERMOFORMING MACHINES



EIDOS



EIDOS SE



BR5 SPECIAL SPA



MASTERFORM

WATERJET CUTTING SYSTEM



TECNOCUT PROLINE



TECNOCUT SMARTLINE



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