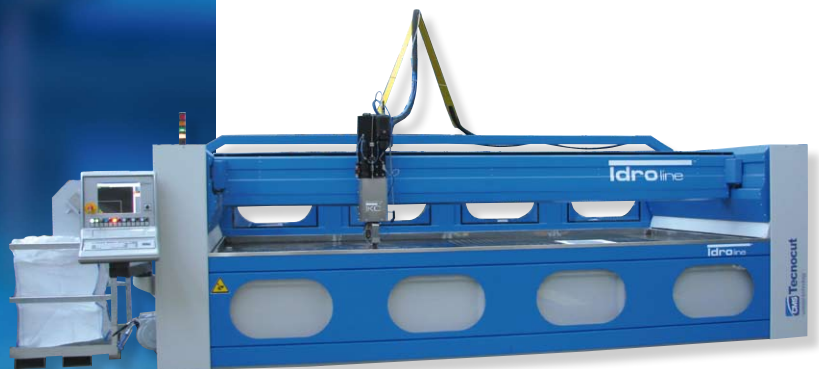


# waterjet cutting system

**CMS<sup>®</sup> Tecnocut**  
waterjet technology



## idro line

# The complete solution in waterjet cutting technology

Tecnocut is the leader in the manufacture of **complete waterjet cutting systems**.

The only manufacturer in Italy, and among the few in the world, to design and develop everything internally.

**3 basic components:** very high pressure heat intensifiers, cutting robots and highly sophisticated management and control software.

**3 elements to be number 1** able to supply its customers with all the required tools, in a single and complete major solution:

**3for1st**

## Hardware

cutting robots specifically for fast, precise waterjet cutting

## Software

extremely sophisticated, very simple and highly effective software

## Power

pressure intensifiers, the spirit of waterjet cutting systems, with maximum reliability and minimum operating costs

3<sup>for</sup>1<sup>st</sup>





3<sup>rd</sup> for 1<sup>st</sup>



# Jetpower<sup>TM</sup> eVO

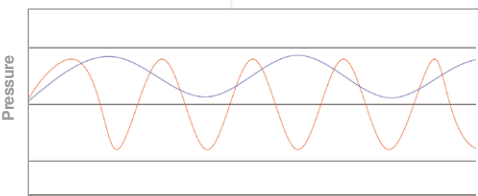
## Pressure intensifier all made by Tecnocut

Tecnocut established a new concept of ultra high pressure intensifiers by giving its uniqueness and exclusivity, enhancing its technology making it the real answer to the prayers of the most demanding users. The original technical design was for the system to be fitted with several electronically synchronized, parallel, independent pressure multipliers. This allows increasingly constant pressure, avoiding typical drops of the traditional intensifier with single opposite cylinder.



**Pressure multipliers**  
Electrically synchronized, parallel, independent cylinders granting:  
1. Continuous pressure signal  
2. Low maintenance costs

2



Traditional intensifier with single opposite cylinder

Tecnocut intensifier with parallel cylinders

1

Electronic pressure control by software



1



**3 Hydraulic panel**  
Latest generation system with variable flow rate hydraulic pumps

3



**4 Air-oil cooling system**  
It allows the reduction of processing costs by eliminating the need for water required by traditional pressure intensifiers

4



30 Hp



120 Hp

## Specifications

Models		Jetpower evo		Jetpower
		30Hp	60Hp	120Hp
Power	kW/Hp	22,5/30	45/60	90/120
	Multipliers	n°	2	3
Max water pressure	bar/psi	4150/60.000		4150/60.000
Max flow rate	lpm/gpm	2,5/0,66	5/1,32	9/2,38
Max diam. Orifices	mm/in	0,28/0,011	0,40/0,016	0,50/0,019
Voltage	400V +/- 5% 50-60 Hz (different voltages and frequencies required)			



# Idro line<sup>TM</sup>

## The cutting robot with technological perfection also in the details

Technology, design and wish to develop a technologically and productively superior system have allowed the **Idro line** to be raised above any reference, making it unique on the market.

It is the first system with an active method for controlling the speed and kerf of the jet; the first with a 5-axis head with continuous probing. **Idro line** is able to perform the most demanding jobs and, at the same time, meet the expectations of those requiring versatile solutions.



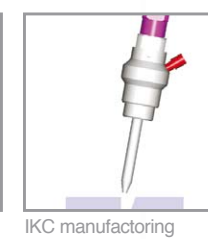
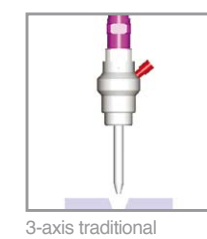
**4** Integrated automatic system for removing used abrasive from the tank



**5** Rotating axis for pipe processing  
Handling and control for cutting circular and square base pipes (both 3-axis and 5-axis)

powered by  
**IKC**

**6** 5-axis cutting head with IKC technology  
Efficient head handling for making inclined cuts and controlling the kerf of the cutting groove (IKC – Intelligent Kerf Compensation)



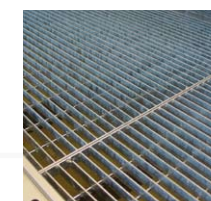
3-axis traditional manufacturing process

IKC manufacturing process

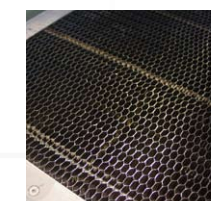
**7** Additional cutting heads  
Possibility of increasing the number of heads with automatic adjustment of the centre distance



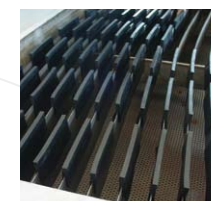
**8** Support plane  
Planes dedicated to the different applications cutting



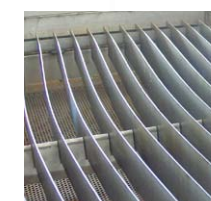
Standard



Honeycomb grid for plastic



Anti-reverberation for glass



Anti-reverberation for metal

**3** Cutting robot management hardware and software

The software, completely developed in a Windows® environment, provides easy dialogue with the operator and is personalized for easy management of all the functions of a waterjet cutting system, including the kerf control function (IKC) for 5-axis systems.

The robot's hardware, based on a robust industrial PC, is fitted with a network board

**2** Probe with anti-collision

Efficient system able to automatically regulate the distance of the cutting head from the piece being processed and stop it in the case of collision



**1** Automatic pipe winder

Convenient and tidy accessory for managing air-water guns

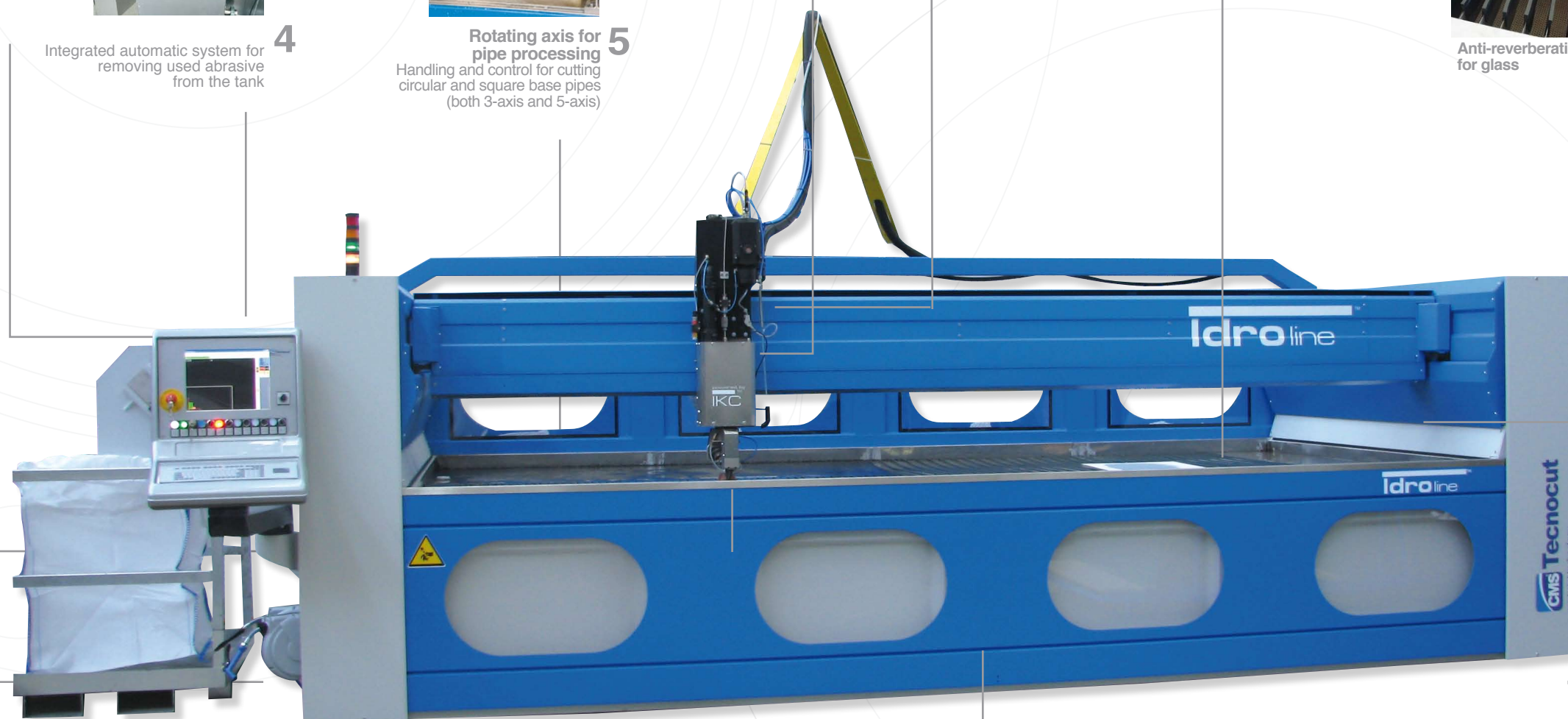


**9** Base  
Monolithic structure with stainless steel tank with side opening for possible loading and unloading activities



**10** Handling  
Precise rack and pinion transmission with efficient labyrinth casing

**11** Automatic hatches  
Moving safety guards with the possibility of loading and unloading on both fronts





3<sup>rd</sup> for 1<sup>st</sup>



# Tecnocam

TM

The Software,  
simple to use and  
effective in its performance

Tecnocam is a CAM software package used for the complete management of the technology of waterjet cutting systems.

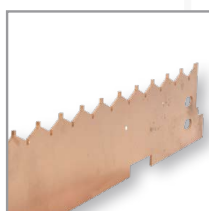
Developed in a Windows® environment, it was created and developed in result of the vast experience gained by Tecnocut in the sector.

Tecnocam allows interfacing with the most varied drawing software packages available in the market.

## Materials database

The software is completed by a database containing the technological parameters of the materials most commonly used for waterjet cutting.

It can also be implemented for meeting precise technological needs. The technology of the individual sections that comprise the imported shapes can be modified to optimize the cutting sequence and their processing



Copper



Multilayer glass



Aluminium



Stone

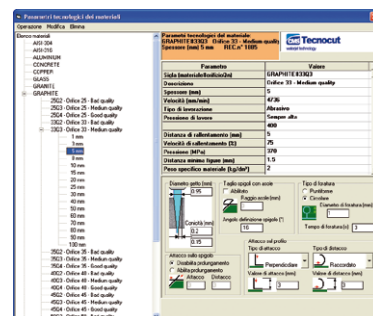


Stainless steel



Plastic

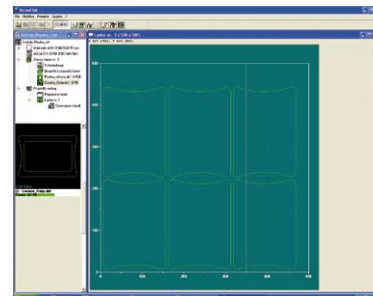
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## Plate optimization (nesting function)

The high level of development of the nesting algorithms allows perfect optimization of the space on the plate, managing both plates of different dimensions and possible processing offcuts

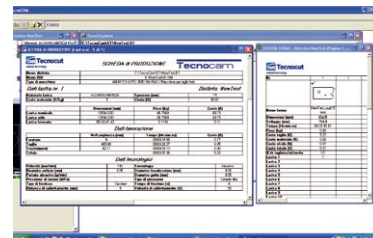
2



## Management of the cutting orders and estimates

The management of cutting orders is handled by a simple interface and it is possible to obtain information relative to the placing data with graphic display of the plate, the relative technological cutting data and the production estimate, divided into cutting costs and material costs. Following ISO generation the exactness of the cutting route can be checked with an instrument that reproduces the cutting machine's CNC

3

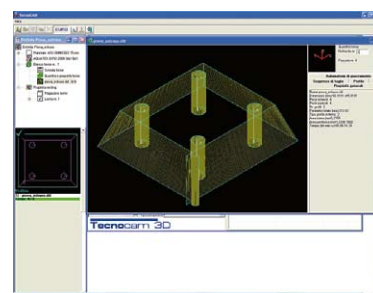


## TECNOCAM 3D three dimensional cutting management and special machines

The optional Tecnocam 3D module is a software package for drawing solid shapes that gives the possibility of creating 3D shapes in a simple and intuitive way through knowledge of the shapes of the upper and lower sections or the required kerf to then be used for the TECNOCAM software functions.

It also manages multi-head cutting by selecting which the greatest number of heads and their centre distance are that minimizes the cutting time and maximizes the exploitation of the plate and is set up to generate ISO programs dedicated to 3 and 5-axis pipe processing

4



# Specifications

## Model

1720

1740

2040

<b>X Axis</b>	2000 mm / 78.7 in	4000 mm / 157.5 in	4000 mm / 157.5 in
<b>Y Axis</b>	1700 mm / 66.9 in	1700 mm / 66.9 in	2000 mm / 78.7 in
<b>Z Axis</b>	250 mm / 9.8 in (150 mm / 5.9 in with 5 axis head)	250 mm / 9.8 in (150 mm / 5.9 in with 5 axis head)	250 mm / 9.8 in (150 mm / 5.9 in with 5 axis head)
<b>A Axis</b>	600°	600°	600°
<b>B Axis</b>	+/- 60°	+/- 60°	+/- 60°
<b>R Axis</b>	Ø Min/Max pipes 40 > 400 mm 1.6 > 15.7 in (Ø Min/Max pipes 40 > 340 mm 1.6 > 13.4 in with a 5-axis head) Length Max 1830 mm / 72 in Maximum weight 100 Kg/m	Ø Min/Max pipes 40 > 400 mm 1.6 > 15.7 in (Ø Min/Max pipes 40 > 340 mm 1.6 > 13.4 in with a 5-axis head) Length Max 3830 mm / 150.8 in Maximum weight 100 Kg/m	Ø Min/Max pipes 40 > 400 mm 1.6 > 15.7 in (Ø Min/Max pipes 40 > 340 mm 1.6 > 13.4 in with a 5-axis head) Length Max 3830 mm / 150.8 in Maximum weight 100 Kg/m
<b>Support plane</b>	2700x2050 mm / 106.3x80.7 in	4600x2050 mm / 181x80.7 in	4600x2100 mm / 181x82.7 in
<b>Overall dimensions</b>	4700x2300 x h 3700 mm 185x90.6 x h 145.6 in	6400x2300 x h 3700 mm 251.9x90.6 x h 145.6 in	6400x2600 x h 3700 mm 251.9x102.4 x h 145.6 in

**Support plane max capacity: 1000 kg/mq**

**Velocity: 0 → 40000 mm/min / 0 → 1574.8 in/min**

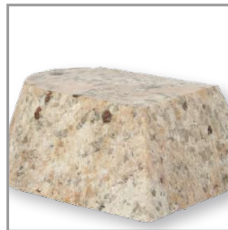
**15" TFT colour monitor, keyboard with integrated mouse**

**External port for USB key interface (USB 256 Mb key supplied)**

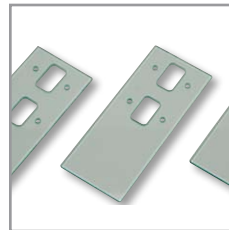
**Connection to the computer network: RJ45 10/100 Mb connector**



Aluminium



Granite



Monolithic glass



Plastic

Tecnocut, founded in 1992, very quickly became one of the most authoritative references in the waterjet cutting technology field. In 2005 it became part of CMS Industries, a SCM Group company, worldwide leader in the manufacture of numerical control machines for processing wood, advanced materials, marble and glass. Thus Tecnocut guarantees its presence in 120 countries and an increasingly articulated solution to different production requirements.

Moreover its presence in AIW (Associazione Italiana Waterjet), of which it is a founder member, and WJTA (American Waterjet Association), of which it is a member, represents a guarantee of constant updating for Tecnocut.

**A solid and very flexible company structure, a group of people able to produce excellent solutions and offer exclusive and innovative solutions to the market at an interesting price. This is the added value that Tecnocut offers its customers every day.**



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