

waterjet cutting system

CMS[®] Tecnocut
waterjet technology



idea

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



3rd for 1st



JetpowerTM eVO

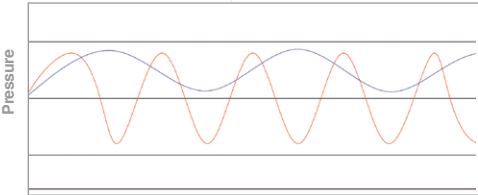
Pressure intensifier all made by Tecnocut

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



30 Hp



120 Hp



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



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

Specifications

	Models	Jetpower evo		Jetpower
		30Hp	60Hp	120Hp
Power	kW/Hp	22,5/30	45/60	90/120
Multipliers	n°	2	3	6
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)			



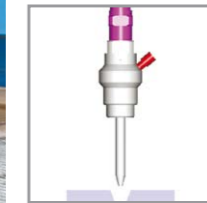
Idea™

The perfect cutting robot for your constant growing needs

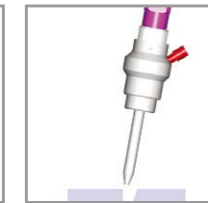
"Idea" is a revolutionary hydro-abrasive waterjet cutting system able to work large plates. It is a modular system that is able to adapt itself to your future needs with the chance of mounting up to three head holder bridges (3/5 axis cutting head) on the same structure. "Idea" grants the best relationship between price and productivity, even in its most basic configuration

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

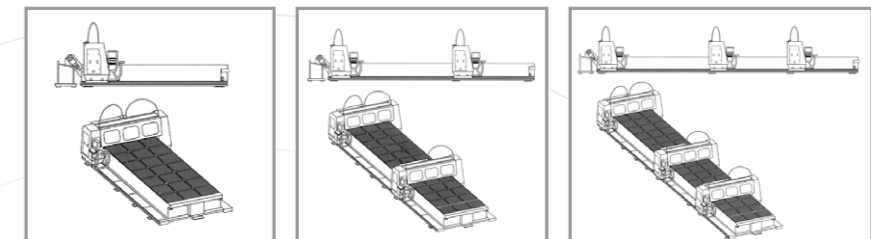


IKC manufacturing process

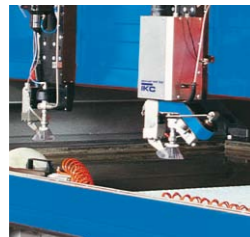
7 Handling
Precise rack and pinion transmission and circulating ball screws with efficient labyrinth casing

8 Safety guards
Automatic hatches for the whole working area protection and bumpers devices along the major axis

9 Mobile bridges
Possibility of adding more mobile bridges (from 1 to 3) and each one can be equipped with two cutting heads in order to increase the production capacity



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



4 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



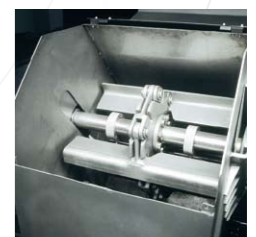
3 Cutting robot management hardware and software
The software, completely developed in a Windows® environment, provides easy dialogue with the operator and is personalized for easy management of all the functions of a waterjet cutting system, including the kerf control function (IKC) for 5-axis systems. The robot's hardware, based on a robust industrial PC, is fitted with a network board



2 Control station
Working area control station integrated with the mobile bridge

1 Piece holder table
Monolithic stainless-steel tank with a capacity of 1000 kg/m² with 4 open sides for loading and unloading activities

10 Dredge
Integrated automatic system for removing used abrasive from the tank



3rd for 1st



power



hardware



software

Tecnocam™

The Software, simple to use and effective in its performance

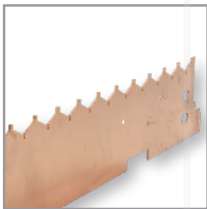
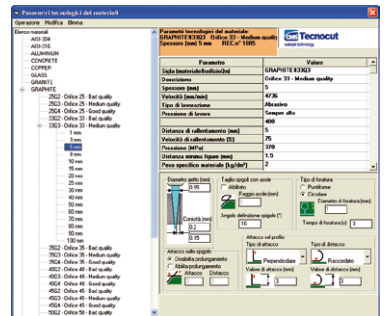
Tecnocam is a CAM software package used for the complete management of the technology of waterjet cutting systems. Developed in a Windows® environment, it was created and developed in result of the vast experience gained by Tecnocut in the sector.

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

1 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



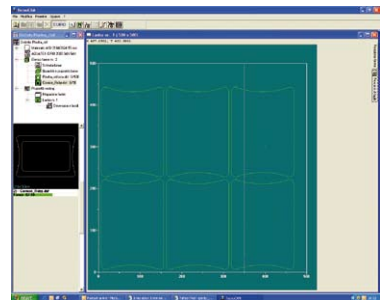
Aluminium



Titanium

2 Plate optimization (nesting function)

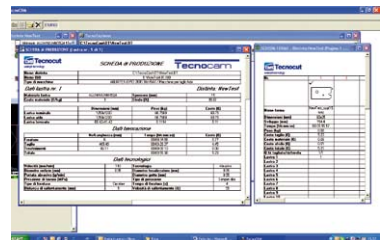
The high level of development of the nesting algorithms allows perfect optimization of the space on the plate, managing both plates of different dimensions and possible processing offcuts



Nesting Inconel details

3 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

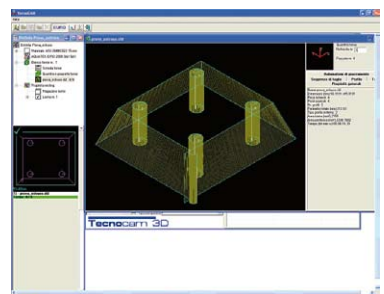


Stainless steel

4 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 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



Technical data

Model

	X Axis	Y Axis	Z Axis	A Axis	B Axis	Overall dimensions
3040	4000 mm / 157.5 in	3000 mm / 118 in	200 mm / 7.9 in (3/5 axes)	600°	+/- 60 °	7000x5500x h 4000mm 275.6x216.5x h 157.5
2060	6000 mm / 236.2 in	2000 mm / 78.7 in	200 mm / 7.9 in (3/5 axes)	600°	+/- 60 °	9000x4500x h 4000 mm 354.3x177.2x h 157.5
3060	6000 mm / 236.2 in	3000 mm /118 in	200 mm / 7.9 in (3/5 axes)	600°	+/- 60 °	9000x4500x h 4000 mm 354.3x177.2x h 157.5
3080	8000 mm / 315 in	3000 mm /118 in	200 mm / 7.9 in (3/5 axes)	600°	+/- 60 °	11000x5500x h 4000 mm 433x216.5x h 157.5
30120	12000 mm / 472.4 in	3000 mm /118 in	200 mm / 7.9 in (3/5 axes)	600°	+/- 60 °	18000x5500x h 4000 mm 708.7x216.5x h 157.5

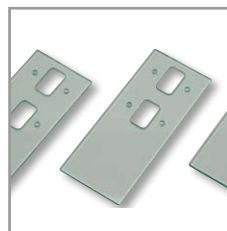
Support plane max capacity: 1000 kg/mq
Velocity: 0 → 20000 mm/min / 0 → 787.4 in/min
15" TFT colour monitor, keyboard with integrated mouse
External port for USB key interface (USB 256 Mb key supplied)
Connection to the computer network: RJ45 10/100 Mb connector



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.



CMS **Tecnocut**

waterjet technology company of CMS Industries

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