

# Plasma CN

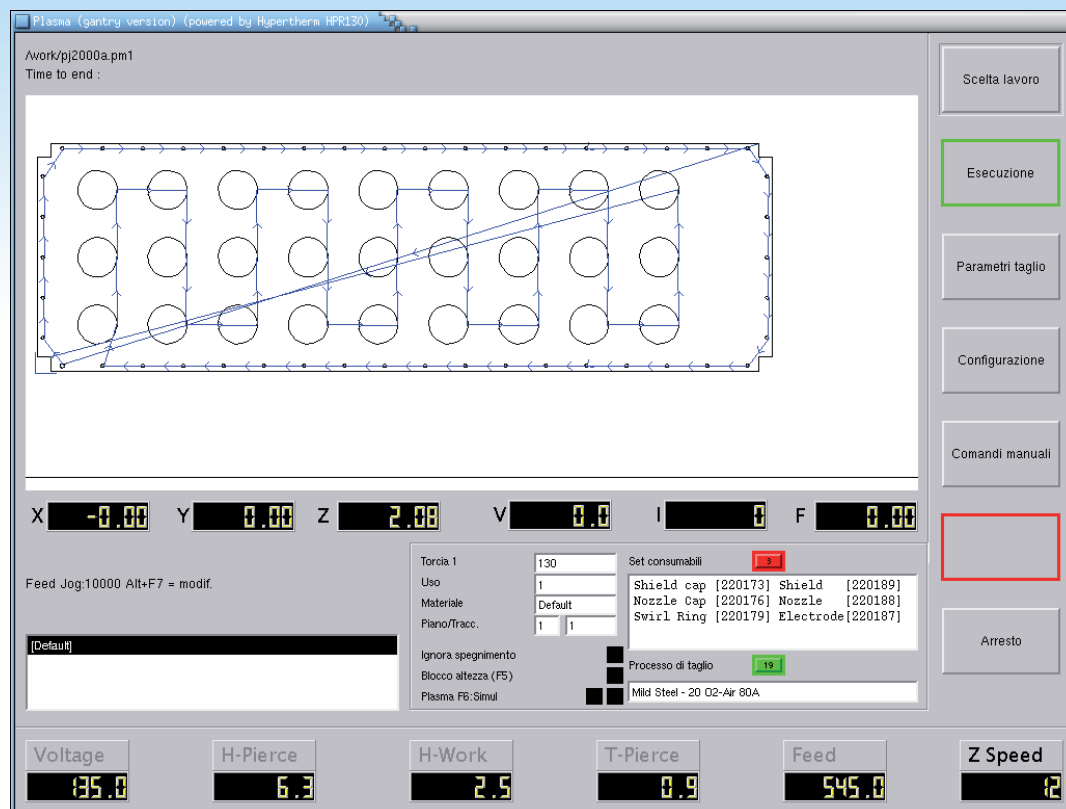


better results with..

The control solution for the machines with thermal cutting

A solution of numerical control that was expressly studied for the sector of the thermal cutting

Your specific production needs are interpreted in the best possible way so to win the challenge relevant to effectiveness and productivity



## Everything under control

The heat cutting has some special and unique needs, that are not to be found in other sectors where the numerical controls are applied.

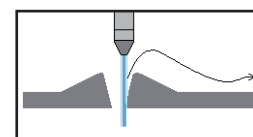
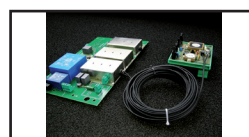
This simple consideration does sum up the philosophy of the project by Eurosoft in the sector of the heat cutting. The cutting process, both it is Plasma, Oxy or Laser requires that all the information relevant to it are immediately accessible and changeable. The operator's productivity increases because it may concentrate on what he is interested in thanks to very simple and intuitive functions, that are complete but minimal.

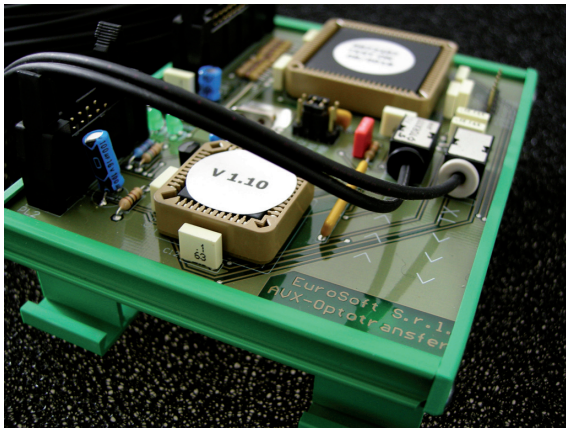
The machine operational speed, the mechanical performances do not immediately translate into a productive

machine if the Job Manager (your numerical control) cannot meet the engagement.

The continuous attention paid to the problems arisen by the customers, a careful design have made of the Eurosoft control system what is better is to be desired to be a good cutting machine and make it a reliable and fast production tool.

Your machine is more productive, your investment is more profitable if jobs are managed by the numerical control system by Eurosoft.





The opto-isolated card for the transfer of the commands to the generator is to grant for the total immunity from any electrical or magnetic noise

## The hardware platform

The control by Eurosoft is built upon a realtime Linux platform and can control up to 8 interpolated axis in addition to further 8 service axis

The hardware used is a sound industrial PC equipped with:

- CPU Intel (tm) Celeron 650 Mhz
- HD 2.5" (notebook like) with shock absorber
- input power 24Volt DC
- Removable video and keyboard
- Network card 100 MegaBit+USB entries for removable storage

The system is extremely modular and through a bus makes it possible to connect up to 16 expansion cards

Some expansion cards are used on the machines for the thermal cutting::

- Opto-Plasma for interfacing in optical fiber with Plasma generators (it includes a optical fiber serial channel to speak to some last generation generators)
- 16 opto-isolated digital inputs
- 16 digital output with power mosfet (2 Amperes load) protected
- Stepper motors (up to 5 interpolated axis)
- 10 additional encoders
- Additional 2 DAC output (usage example : Inverter)

## The realtime system

For years Eurosoft has been successfully using the operating system called Linux with realtime RTai extensions.

The effectiveness of the system chosen has made it possible to use the same CPU for the user's tasks (graphical program to talk with the operator), for the system's tasks, and for the most important one: to control the machine and its motors.

Thanks to this opportunity the system is simple and consequently: less costs, less troubles and in general a reliability of the software that can be remarked only in embedded systems (but without inheriting its classical limits).

## A list of the main functions

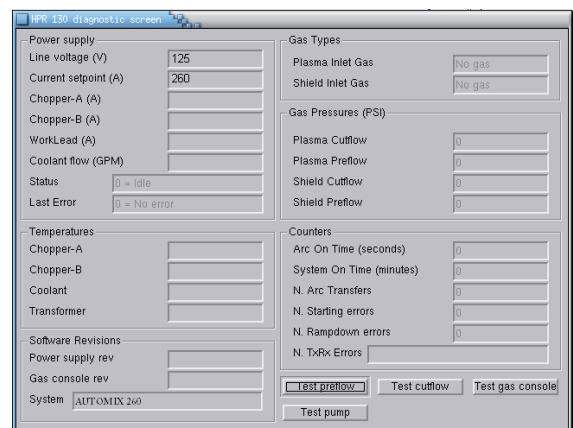
The system reads cutting programs in the ISO format, the operator is not introduced to the program codes; while using the machine it is sufficient to take into account the terms relevant to the cutting : cutting planes and cutting tracks.

Being in a position to rely on a large number of predefined managements that can be easily set up (Plasma generators, Oxy, markers, piercing/threading unit) the system is extremely flexible and can adapt to the total amount of the possible settings up.

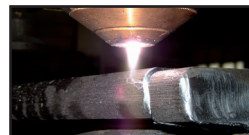
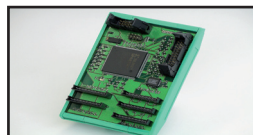
Integrated management of the evolved Plasma cutting systems and talk with the generator control unit, the system makes a real generator control board panel available.

Other features::

- Zero sheet and sheet rotation management
- Very simple and intuitive cutting recover from some interrupted programs (with retracing back and forwards) with possibility to automatic enter a re-starting connection to preserve the cutting outline.
- Possibility to move the machine during the situation of the program pause
- Quick adjustment of the parameters during the cutting: feedrate, arch tension, piercing delay (with immediate reaction by the system)
- Piercing counter for the planned change of the nozzle
- Activity Log: the system records the names of the programs made and the relevant: cutting times, number of piercings, number and times of operations made with drilling machine; the data are recorded on a SQL database and can be consulted through a browser web also from another network-connected computer
- Library of parametrical geometries for standard works
- Technological database of the materials and cutting data (cutting processes, tool parameters)
- Axle track recording (commanded + encoder) in a graphical format that can be easily consulted with a CAD system
- Remote service system based on VPN with desktop sharing with minimal pre-requisites
- Out-of-square adjustment made by software



Control panel for the Plasma generator



**EUROSOFT**