

USER



FAGOR AUTOMATION

LASER CNC 8060 / CNC 8070



Leading technology made affordable

The new generation of Fagor CNC's offers the latest in technological innovations to make your job easier



Remote diagnostic
and troubleshooting

E-mail
communication
with the user



Preview of program
to be run

10.4" or 15"
screen

USB communication

Icon- based
navigation



Navigation using
soft keys
(graphics + text)



Keyboard protected
against shop floor
contamination and liquids
(IP 65)



Built-in mouse or
external peripheral
device option



Customized operator keyboards

Innovations to make your job easier

10K models

10.4" LCD monitor and integrated JOG keyboard



CNC 8060 10K
CNC 8070 10K

15 and 15T models

15" LCD monitor with touch screen option



CNC 8070 15
CNC 8070 15T

User memory

User memory

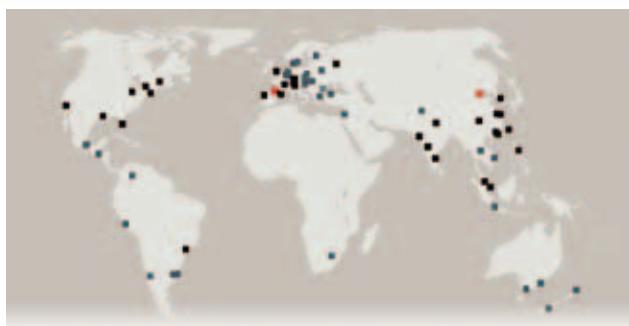
Fagor CNCs offer either 1.3 GB or 30 GB, depending on the model, for program storage. For additional memory requirements it allows you to use external devices like compact flash, USB etc.



CNC simulation software for PC



Technical service



CNC simulation software for PC

You can download a free copy of CNC simulator from our corporate website to simulate any CNC program taking in to consideration machine configuration and actual speeds and feeds etc.

This software can also be used for:

- Training programmers and operators in training centers.
- Editing/Simulating part program in design departments.
- Machining time estimate.
- Budgeting.

Technical service

Our worldwide network ensures quick response time to any technical support you may require with our products at any time.

Through our 30 office locations and 40 official distributors worldwide Fagor Automation's highly qualified personnel are able to offer immediate technical assistance, both via phone or on-site.

Remote On-Line Assistance is also available.

Specific HMI

Operating modes

The all new user interface has been developed keeping in mind the intricacies of various laser cutting machines. It's intuitive navigation provides easier access to different operating modes, minimizing programming steps. The user interface is easily configurable depending on the unique needs of any user.

PROGRAM selection and PREVIEW

In AUTOMATIC operating mode, the program selection screen offers a preview of the selected program in the preview window.

PROGRAM selection and PREVIEW



CUT VIEW

This sectional view displays a preview of the selected program. The colors in the graphic view represent the different cutting parameters used during the program execution. The continuous movement of the cursor and the change in color represents part cutting progress.

CUT VIEW



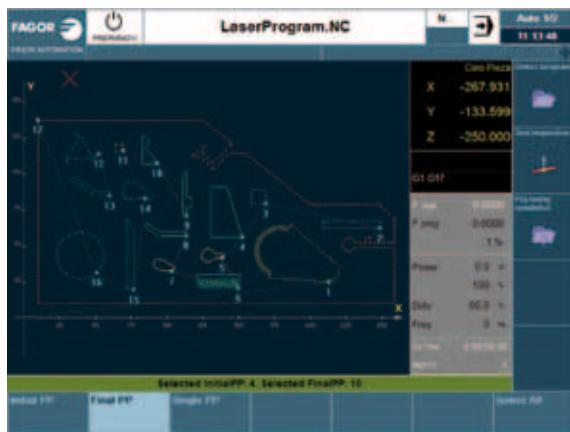
Custom HMI solutions

Fagor Laser CNC allows easy development and implementation of custom screens. Optionally larger 21 inch screen and keyboard can be connected to the CNC allowing adaptability to various custom HMI solutions.

Custom HMI solutions



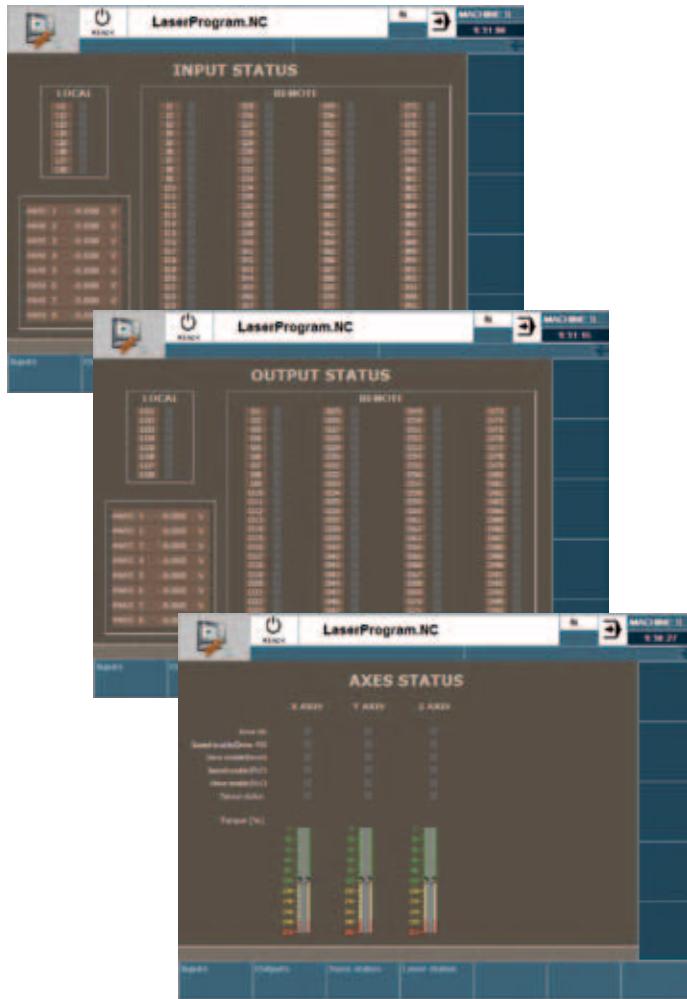
Profile selection



Profile selection

Allows the user to select part of a program by defining the start and end point or only the piercing point (PP). Both options can also be combined together. The part program selected is displayed with solid lines and the unselected part in dotted lines.

I/O, AXES and LASER monitoring



This mode displays the status of the I/Os, the axes and the laser. The different screens in this operating mode can be accessed by the corresponding softkeys.

Cutting conditions and material selection

Simple and intuitive data management

The information related to materials and cutting processes is organized in Technology Tables and Materials Lists, which provide simple, intuitive management of all process-related data.

Technology tables

These make it possible to select optimum parameters for the cutting process specific to a profile. The user can also select piercing conditions associated with different materials.

These conditions can be modified during program execution.

Tables are fully configurable by the user (OEM)

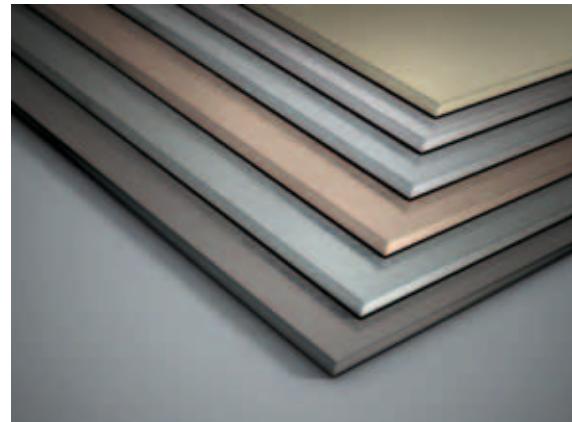
Materials lists

The common parameters associated with a material that affect the CUTTING and PIERCING processes are organized in the Materials Lists. The technological data for a specific material can be selected via the specific command in the part program.

Technology tables

Materials lists

LaserProgram.NC				
Material	Measure	Thickness	Last use date	
L-1001.00	10	0.0	11.05.2016 12:	Create material
L-1002.25	25	0.0	11.05.2016 15:	Create material
L-Alumin, Stein, 10	20	0.0	05.04.2016 0:	Create material
L-Alumin, 10	20	0.0	05.04.2016 0:	Create material
L-112.10	25	0.0	05.04.2016 0:	Create material



High-speed cutting

Optimizes machine efficiency

High-speed cutting



High-speed cutting

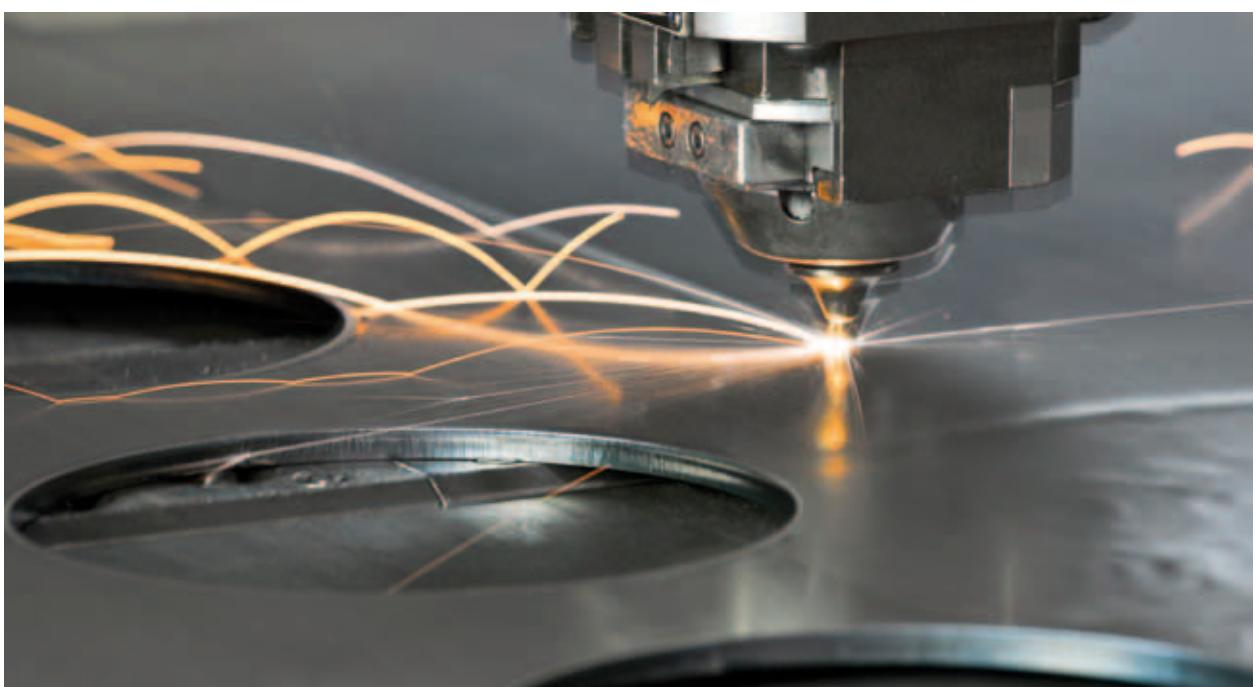
Part laser cutting programs are usually generated through CAD/CAM programs. Fagor CNCs optimize the captured points by smoothing the tool paths through polynomials (splines).

This polynomial interpolation makes it possible to obtain fast cutting speeds by making the path smooth. The laser movements are therefore made smoothly, without abrupt accelerations or braking. Fagor CNCs assess the programmed high-speed path changes in advance, which makes it possible to adapt the dynamics of the axes to reduce stress.

Fagor's exclusive HSSA machining system (High Speed Smooth Accuracy) offers two benefits:

On the one hand, the mechanical stress on the machine is lower and the lifespan of its components is longer, and, on the other hand, thanks to less vibration, the movements are smoother, allowing for a faster cutting speed.

This system is now offered in two levels, according to the CNC models, providing a choice between the **HSSA I** system in the CNC 8060 and the **HSSA II** system in the CNC 8070, which has more resources for faster speed.



Specific functions

Solutions developed to maximize the potential of laser

Meeting the specific needs of laser manufacturing machines, and more specifically, sheet cutting (2D) machines, Fagor Automation has developed its new model of CNC LASER to provide a complete solution that includes all its most common features.

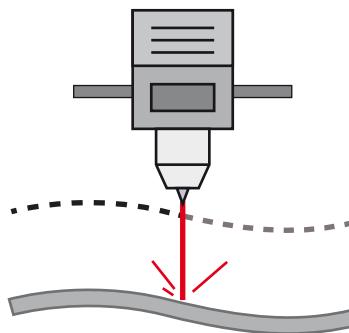
These features are available as integrated functions, facilitating their programming as much as possible.

GAP control

This function ensures a specific set distance is maintained between the laser nozzle and the sheet surface (GAP).

The CNC then makes all the necessary compensations to maintain the gap irrespective of the variation in sheet thickness.

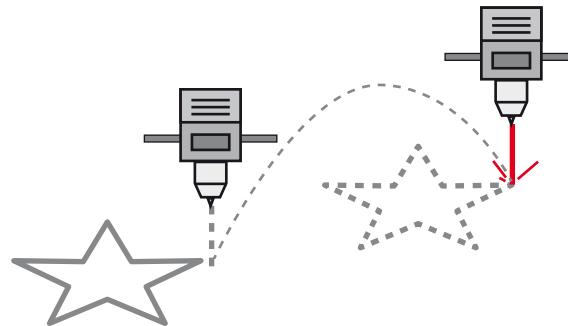
GAP control



Leap frog

During the positioning on the XY plane between different cutting positions, the Z axis moves up to prevent collision with savings or cut parts which may be protruding from the sheet surface. The trajectory of the "Leap Frog" is optimized by the CNC and dynamic behavior of the axis is maintained.

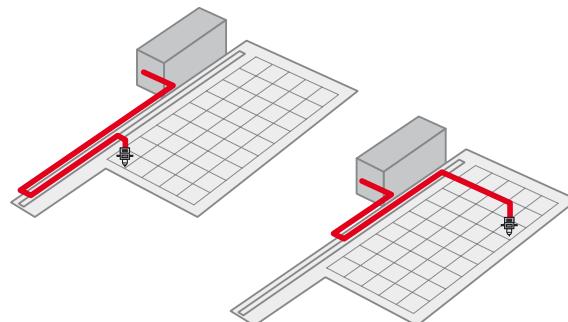
Leap frog



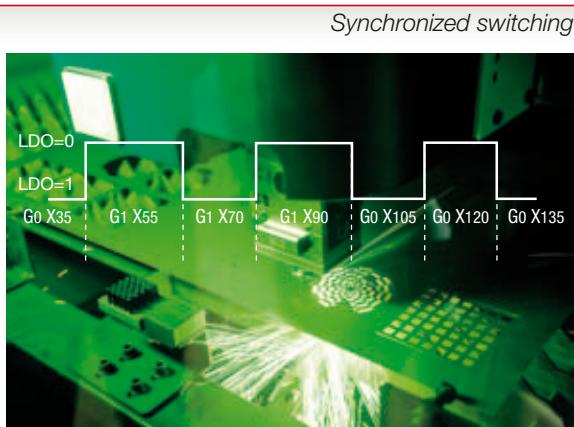
Laser path compensation

This is one of the typical functionalities on CO₂ laser machines, used to keep the overall laser path constant to prevent variations in beam dispersion at the cutting point of the sheet.

Laser path compensation



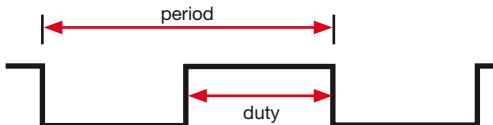
Laser cutting



Synchronized switching

This feature permits subordinating the status of a signal (digital output) to the path type. This makes it possible to control the fast activation/deactivation of the laser cutting beam to generate parallel cutting patterns like Grid or Matrix.

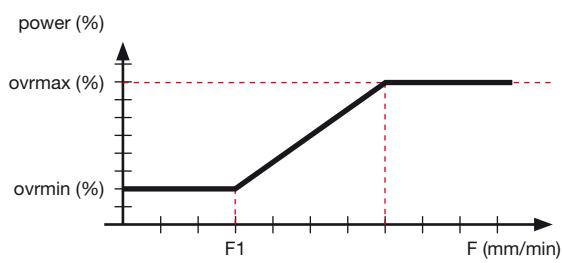
PWM (Pulse-Width Modulation)



PWM (Pulse-Width Modulation)

PWM is used to control an operating cycle of the laser signal (DUTY cycle and period), thus allowing the user to modify the laser beam power.

Power control



Power control

This new functionality allows the laser power to be controlled through an analog output, or through the PWM DUTY cycle, depending on the speed of laser nozzle path. This allows the user to maintain a homogeneous and uniform cut.

Retrace Function

Quick resolution for unexpected situations.

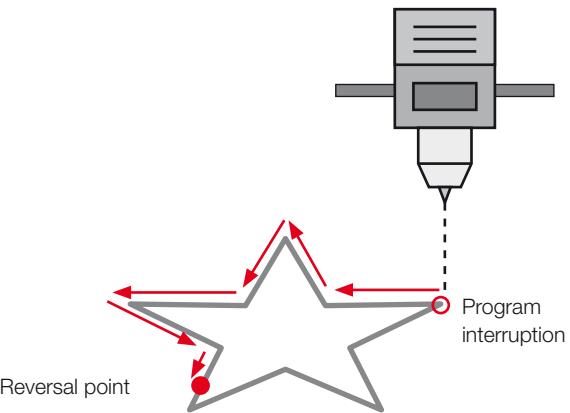
This function makes it possible to resume a cutting operation from a specific point, e.g., if the beam is interrupted and the process has to be restarted from the point where it was interrupted.

Utilizing this function the user can execute the program path backwards.

The user can define the start of the retrace function using a mark and the end as well. Once the program retraced to the end point it will restart the program execution.

A maximum of 300 program blocks can be retraced.

Retrace



PC programming

Program using third-party CAD/CAM programs.

Fagor CNC Laser control can also be programmed using many CAD/CAM systems available in the market, so user can work directly on the PC to create and check the program.

PC programming



Technical characteristics



CNC 8060	CNC 8070
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CNC 8060	CNC 8070
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Main characteristics

LCD monitor	10.4"	10.4"/15"
Touch screen	-	- / △
Mouse integrated into the keyboard	-	- / △
Browsing with an external mouse	△	△
User memory	1.3 GB	Up to 30 GB
Ethernet	○	○
USB	2	3
Compact Flash	△	○
Block processing time	2 ms	Up to 0.25 ms
Looptime	4 ms	2 ms
Look Ahead	Up to 240	Up to 2400
Kinematics	-	○
HSSA I	△	-
HSSA II	-	△

Configuration

Maximum number of axes	6	28
Maximum interpolated axes (*)	4	28
Maximum channels	1	4
Simulation channel	○	○
Maximum local digital I/O	16/8	16/8
Maximum remote digital I/O	1024/1024	1024/1024

Editing & Programming

Languages supported	12 (**)	12 (**)
Customizable HMI	○	○
Pop-up browsing	○	○
ISO and parametric language	○	○

Display & Simulation

Graphic program simulation	○	○
CNC simulation software for PC	○	○
Tele-Diagnosis	○	○
Integrated manuals	○	○
Oscilloscope	○	○
Calculator	○	○
Self.adjustment software	○	○
Third-party software	-	△

Specific features

Gap Control	○	○
Leap Frog	○	○
Power control	○	○
Retrace	○	○
Synchronized switching	○	○
PWM	△	△
Laser path compensation	△	△
RTCP	-	△

○ Default

△ Optional

- Not available

(*) Products manufactured by FAGOR AUTOMATION since April 1st 2014 will include "-MDU" in their identification if they are included on the list of dual use products according to regulation UE 428/2009 and require an export license depending on destination.

(**) English, Spanish, Italian, German, French, Basque, Portuguese, Chinese, Russian, Czech, Korean and Dutch.



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Fagor Automation holds the ISO 9001 Quality System Certificate and the **CE** Certificate for all products manufactured.

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CNC LASER USER EN 0716



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