

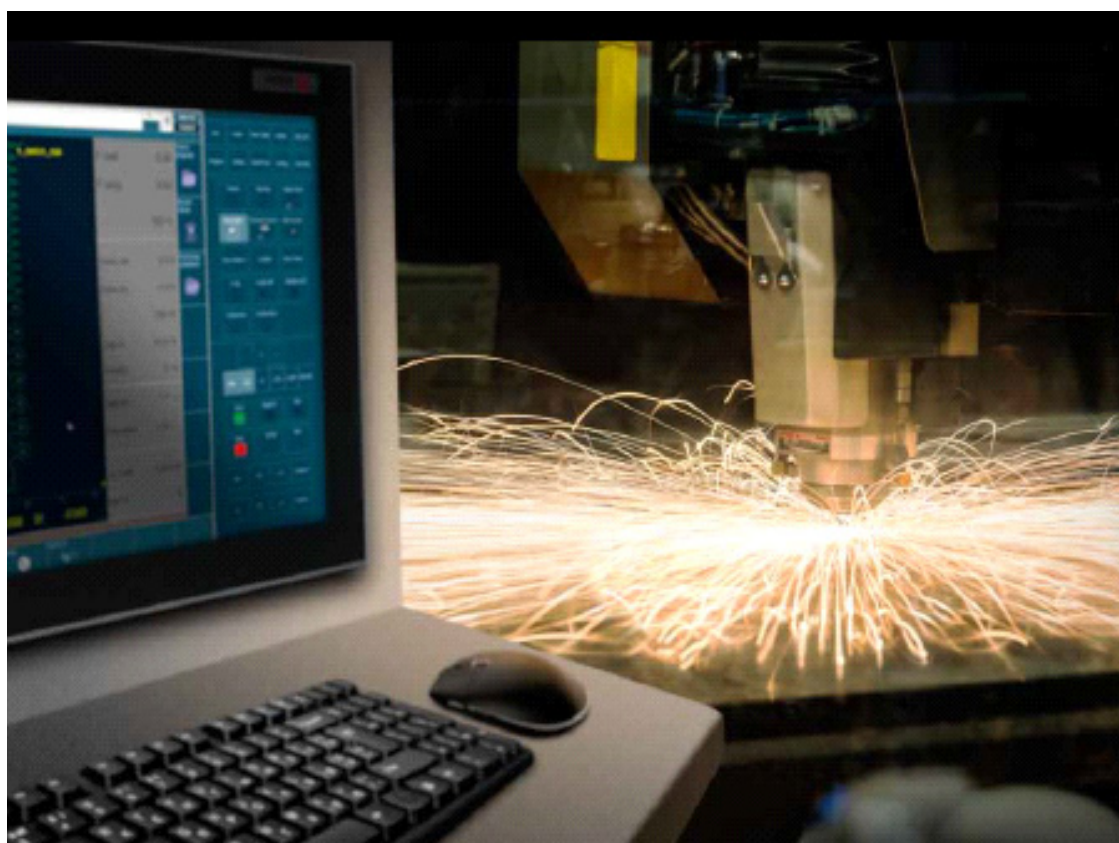
FAGOR AUTOMATION

Ordering Handbook

CNC 8060 *elite* / 8070 *elite* LASER

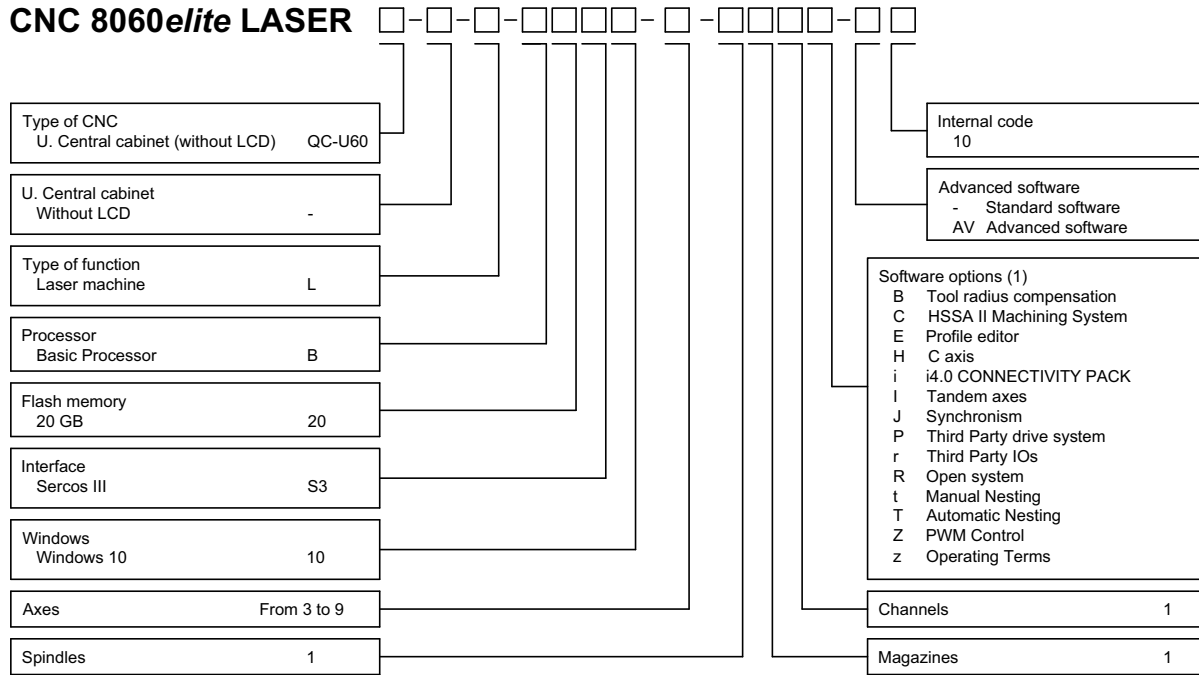
Ref.2210

Original instructions

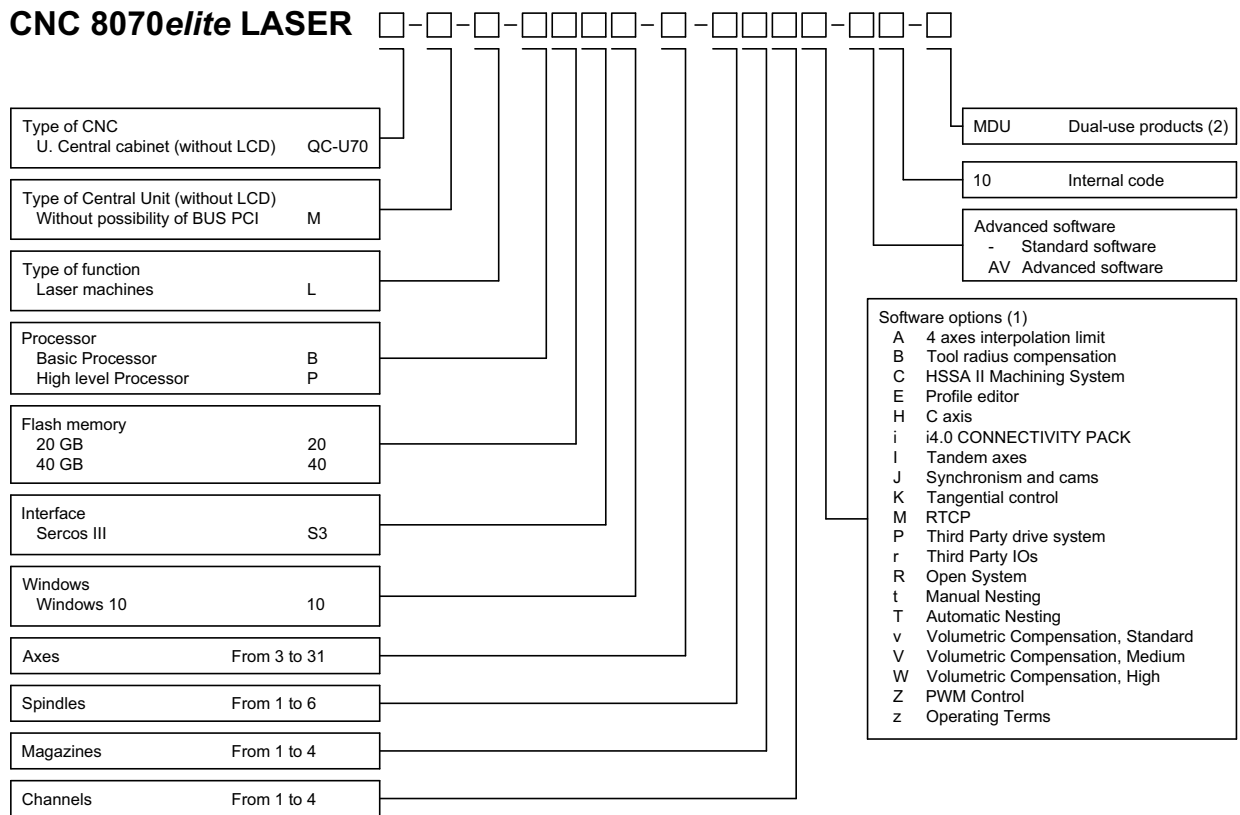


DENOMINATIONS

CNC 8060elite LASER



CNC 8070elite LASER



(1) Depends on the type of function.
(2) Products manufactured by FAGOR AUTOMATION.

Reduced Name

The Full Name of the CNC has a variable length and can exceed 40 characters. But the label allows only up to 40 characters for that field. Therefore, the label will show a "Reduced Name", where the data related to 'Axes', 'Spindles', 'Magazines', 'Channels', 'Software options' and 'Advanced software' are replaced by a 4-digit code as in the following example:

QC - U70 - M - L - P 20 S3 10 - 4 - 1 1 1 BCT - 10 --> QC - U70 - M - L - P 20 S3 10 - S015 - 10

The label will display the replaced characters on a lower line.

CONFIGURATION

CENTRAL UNIT 8060*elite* CNC LASER



(a)

Code	Model	Description	
83600134	8060elite-L-MCU	<i>elite</i> Modular Central Unit with EtherCAT for Laser	(a)

Code	Model	Description	
83600057	SERCOS-3	Sercos 3 module	(1)
83600206	MP-BASIC-e	<i>elite</i> Basic Processor	(1)
83700250	MOD-4GB-RAM	4 GB RAM module	(1)
83701130	M.2-SATA-20	20 GB M.2 SATA	(1)

(1) Required always

Code	Model	Description	
83740098	SOFT WINDOWS 10	WINDOWS 10 software	(1)

(1) Required always

CENTRAL UNIT 8070*elite* CNC LASER



(a)

Code	Model	Description	
83701042	8070elite-L-MCU	<i>elite</i> Modular Central Unit with EtherCAT for Laser	(a)

Code	Model	Description	
83600057	SERCOS-3	Sercos 3 module	(1)
83600206	MP-BASIC-e	<i>elite</i> Basic Processor	(2)
83700207	MP-PLUS-e	<i>elite</i> High level Processor	(2)
83700250	MOD-4GB-RAM	4 GB RAM module	(1)
83701130	M.2-SATA-20	20 GB M.2 SATA	(2)
83701131	M.2-SATA-40	40 GB M.2 SATA	(2)

(1) Required always

(2) Choose one of them

Code	Model	Description	
83740098	SOFT WINDOWS 10	WINDOWS 10 software	(1)

(1) Required always

CONFIGURATION

19" and 21" Panel PC (for Modular Central Unit)



(1)

PPC (choose one of them)

Code	Model	Description	
83760040	PPC-19-F-B-16-7A	PANEL PC 19" 16Gb	(1)
83760041	PPC-19-N-B-16-7A	PANEL PC 19" 16Gb (without logo)	
83760042	PPC-21W-F-B-16-7A	PANEL PC 21" Widescreen 16Gb	(2)
83760043	PPC-21W-N-B-16-7A	PANEL PC 21" Widescreen 16Gb (without logo)	
83760044	PPC-21W-F-B-16-7A-M128	PANEL PC 21" Widescreen 16Gb - 128Gb expansion	
83760045	PPC-21W-N-B-16-7A-M128	PANEL PC 21" Widescreen 16Gb - 128Gb expansion (without logo)	



(2)

Keyboard (choose one of them)

Code	Model	Description	
83760019	HORIZONTAL KEYB 2.0+TOUCHPAD	2.0 Horizontal Qwerty keyboard with touchpad mouse	(3)
83760028	HORIZONTAL KEYB 2.0-A	2.0-A Horizontal Qwerty keyboard with touchpad mouse with thin profile	
83760020	HORIZONTAL KEYB	Horizontal Qwerty keyboard	



(3)



(4)

Operator Panel (choose one of them)

Code	Model	Description	
83760024	OP PANEL	JOG Panel	(4)
83760025	OP PANEL+SPDL RATE	JOG Panel with Spindle override	
83760029	OP PANEL-A	JOG Panel with thin profile	
83760030	OP PANEL+SPDL RATE-A	JOG Panel with Spindle override with thin profile	

Monitor 18W and 21W (for Modular Central Unit)



(1)

Monitor 18W and 21W (choose one of them)

Code	Model	Description	
83700067	MONITOR-18W MULTITOUCH	18" Widescreen LCD monitor	(1)
83700057	MONITOR-21W MULTITOUCH	21" Widescreen LCD monitor	
83700058	MONITOR-21W MULTITOUCH NEUTRO	21" Widescreen LCD monitor (without logo)	

Complete the configuration with:

(3) Keyboard as shown above.

(4) Operator panel as shown above.

SOFTWARE OPTIONS

			8060elite L	8070elite L
		AXES	3 .. 9	3 .. 31
		INTERPOLATED AXES	4	4 .. 31
		SPINDLES	1	1 .. 6
		MAGAZINES	1	1 .. 4
		CHANNELS	1	1 .. 4
		MAX. AXES + SPINDLES	10	32
83740030		SOFT ADDIT AXES	()	()
83740031		SOFT ADDIT SPINDLES	(-)	()
83740032		SOFT ADDIT TOOL MAGAZ	(-)	()
83740033		SOFT ADDIT CHANNELS	(-)	()
83740008	A	SOFT 4 AXES INTERPOLATION LIMIT	(-)	()
83740019	B	SOFT TOOL RADIUS COMP	()	()
		SOFT EDIT/SIMUL	(S)	(S)
83740018	E	SOFT PROFILE EDITOR	()	()
		SOFT DIGITAL SERCOS	(S)	(S)
		SOFT PROBE (1)	(S)	(S)
83740010	H	SOFT C AXIS	()	()
83740013	C	SOFT HSSA II MACHINING SYSTEM	()	()
83740034	I	SOFT TANDEM AXES	()	()
83740035	J	SOFT SYNCHRONISM	()	()
83740012	K	SOFT TANGENTIAL CONTROL	(-)	()
83740009	M	SOFT RTCP	(-)	()
83740043	R	SOFT OPEN SYSTEM	() (2)	()
83740042	P	SOFT THIRD PARTY DRIVES	()	()
83740065	r	SOFT THIRD PARTY IOS	()	()
83740071	v	SOFT FVC (Fagor Volumetric compensation) STANDARD	(-)	()
83740078	V	SOFT FVC (Fagor Volumetric compensation) UP TO 10 m3	(-)	()
83740079	W	SOFT FVC (Fagor Volumetric compensation) MORE 10 m3	(-)	()
		SOFT GAP CONTROL	(S)	(S)
83740062	Z	SOFT PWM CONTROL	()	()
83740120	t	SOFT MANUAL NEST	()	()
83740121	T	SOFT AUTO NEST	()	()
83740045	i	SOFT i4.0 CONNECTIVITY PACK	()	()
83740068	z	SOFT 60/65/70 OPERATING TERMS	()	()

(S)	Standard feature, always active
()	Optional Feature
(-)	Not available

(1) Only functions G100 to G104 included, probing canned cycles excluded.

(2) Recommended to install only software for communication/connectivity with laser equipments.

SOFTWARE DESCRIPTIONS

SOFT 4 AXES INTERPOLATION LIMIT (8070 CNC only)

It limits the number of axes that may be interpolated at the same time. When having this software option, they can interpolate a maximum of 4 axes at the same time.

SOFT TOOL RADIUS COMP

Tool compensation allows programming the contour to be machined based on part dimensions and without taking into account the dimensions of the tool that will be used later on. This avoids having to calculate and define the tool path depending on the radius of the tool.

SOFT EDIT/SIMUL (Standard on all models)

It allows editing, modifying and simulating a part-program.

SOFT PROFILE EDITOR

It allows editing part profiles graphically and importing DXF files.

SOFT DIGITAL SERCOS (Standard on all models)

Sercos drive system bus.

SOFT THIRD PARTY DRIVES

Enables the use of non-Fagor drive modules.

SOFT PROBE

The CNC may have two probes; usually a tabletop probe to calibrate tools and a measuring probe to measure the part. It also offers functions G100 to G104 for programming probing moves; but the probing canned cycles are **not** included.

SOFT C AXIS

It activates the kinematics for working with C axis and their associated machining cycles.

The 8070/60 CNC may be used with several C axis. The parameters of each spindle indicate whether it will work as a C axis or not and it won't be necessary to activate another axis in the machine parameters.

SOFT HSSA MACHINING SYSTEM (HSSA II)

The acronym "HSSA" means High Speed Surface Accuracy. It is the new improved version of HSC (High Speed Cutting).

HSSA algorithm calculations make it possible to optimize high speed machining. This achieves higher cutting speeds, smoother contours, better surface finish and higher accuracy.

SOFT TANDEM AXES

A tandem axis consists in two motors mechanically coupled (slaved) and making up a single transmission system (axis or spindle). This system is normally used to move the axes on large machines.

The CNC configuration contemplates both axes of the tandem. Only an axis is programmed (the master tandem). The other one (the slave tandem) cannot be programmed, but it is controlled by the CNC.

When activating this feature, it must be borne in mind that for each Tandem axis of the machine, another axis must be added to the whole configuration of the machine. For example, on a large 3-axis lathe (XZ and tailstock), if the tailstock is a Tandem axis, the final purchase order for the machine must indicate 4 axes.

SOFT SYNCHRONISM

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. This feature is implemented using a special type of synchronization.

SOFT TANGENTIAL CONTROL (8070 CNC only)

"Tangential Control" Keeps a rotary axis always in the same orientation with respect to the programmed path. The machining path is defined in the axes of the active plane and the CNC keeps the orientation of the rotary axis along the whole path.

SOFT RTCP (8070 CNC only)

The "DYNAMIC RTCP" option is a must for machining in RTCP (Rotating Tool Center Point) with 4, 5 or 6-axis interpolation.

SOFT OPEN SYSTEM

The CNC is a closed system that offers all the features needed to machine parts. However, sometimes, specific customers use third-party applications for taking measurements, doing statistics or running other tasks besides machining a part.

This feature must be active when installing this type of applications, even if it is an Office file. Once the application has been installed, it is recommended to close the CNC back in order to prevent the operators from installing other kinds of applications that could slow the system down and affect the machining operations.

SOFT THIRD PARTY IOs

Enables the use of non-Fagor **Input/Output** modules.

SOFTWARE DESCRIPTIONS

SOFT FVC (Fagor Volumetric compensation) STANDARD (8070 CNC only)

SOFT FVC (Fagor Volumetric compensation) UP TO 10m3 (8070 CNC only)

SOFT FVC (Fagor Volumetric compensation) MORE 10m3 (8070 CNC only)

5-axis machines are usually used to make large parts. The accuracy of the parts is limited by the machine manufacturing tolerances and by the effect of temperature while machining.

In industries like aerospace, the machining demands render the classical compensation tools insufficient. Volumetric compensation FVC comes in to complement the machine adjusting tools. By mapping the total work volume of the machine, the CNC knows the exact position of the tool at all times. After applying the necessary compensations, the resulting part has the desired accuracy and tolerance.

There are 3 choices depending on the size of the machine, basic, up to 10 m3 and over 10 m3.

STANDARD: Faster to calibrate (time), assuming that being less accurate than the other two, is sufficient for the precisions that are required.

UP TO 10m3 and MORE 10m3: More accurate, require precise calibration.

SOFT GAP CONTROL (Standard on all models)

Functionality that makes it possible to maintain a set distance between the laser nozzle and the surface of the sheet (GAP).

The CNC is in charge of compensating for the existing undulations on the surface of the sheet to ensure the optimal positioning of the laser nozzle at all times.

SOFT PWM CONTROL

This feature is only available with Sercos drive system bus. Aimed mainly at Laser machines for cutting very thick sheet metal.

The CNC generates a series of PWM pulses to control the power of the Laser when drilling the starting point. This feature is a must for cutting very thick sheet metal and requires two quick outputs available at the module "SER-CAN-8I-8IO-A (83700065)" of the central unit of the CNC 8070.

With this new feature, the OEM does not need to install external devices and programming them, thus reducing the cost of the machine and installing time. The end user also benefits because the "Cutting with PWM" feature is much easier to use and program.

Only available for Modular Central Unit.

SOFT i4.0 CONNECTIVITY PACK

Software feature defined to enable access to API8070, the library for the development of applications to communicate with the Fagor CNC.

SOFT 60/65/70 OPERATING TERMS

The "Operating Terms" option allows activating a temporary use license in the CNC, valid until a date determined by the OEM.

SOFT MANUAL NEST

SOFT AUTO NEST

Laser model CNCs can be equipped with a CAD/CAM software application for sheet metal cutting machines. This application allows modifying or creating new nesting jobs based on DXF, DWF or Parametric files and create the part-program (NC file) from the nesting job. This will give to the CNC programming autonomy and allow the user to get an NC file in a few simple steps.

These two features define the nesting level allowed for the CAD/CAM software application, distinguishing two levels:

MANUAL NEST: If only this option is active, the user manually defines the nesting of the parts on the metal sheet.

AUTOMATIC NEST: If this option is active, in addition to manual nesting, the system will also automatically perform part nesting in the current sheet, based on the configuration parameters of the machine that is being used. This provides maximum nesting efficiency and optimizes the use of the metal sheet.

MANUALS

The manuals of the CNC may be downloaded from our FAGOR corporate website.
<http://www.fagorautomation.com>

Fagor Automation shall not be held responsible for any printing or transcribing errors in the Ordering Handbook and reserves the right to make any changes to the characteristics of its products without prior notice. You must always compare the data with that appearing in the manual.