

Boring System Evolution 1000



Horizontal CNC boring and Grooving Center Boring from Underneath Panel Feeding in a Cycle or Back to The Operator

BENEFITS

1. **Zero-time setup and greatest flexibility**
More spindles means having an all-purpose tool-warehouse always available
2. **Extremely accurate performance** ensured by mechanical operations on high-precision prismatic rolling guides and by **our innovative drilling concept**, where the panel is steadily clamped on working table during the process of boring.
3. **Compact footprint** the through-feed concept allows to process panels of any length even in small spaces.
4. **Easy loading of big-size-panels** the horizontal structure of this machine allows to apply loaders and rolling tables making the loading easy enough **for one single operator to carry**.
5. **Residues have no influence on the working process accuracy** as boring and cutting are operated from underneath, **while possible damages on working panels are minimized** thanks to air-floatation tables.
6. **Extreme reliable and easy-to-use software interfacing with any CAD CAM program** installed on more than 30.000 machines and developed by CNI a leading Italian company in the field. **Dedicated technician for prompt and detailed software assistance:**

Carlo Fontana
Software assistance



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evolutionservice@maggi-technology.com

IDEAL CHOICE :

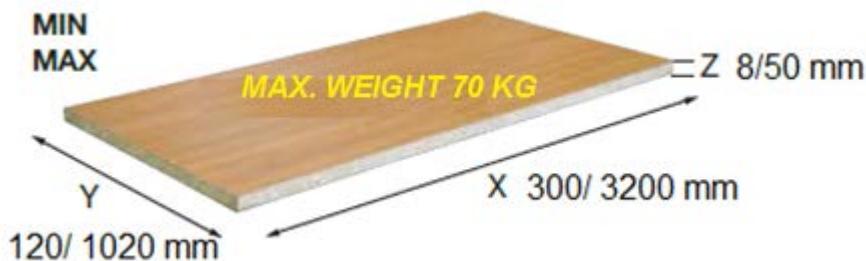
- **For handicraft laboratories** as it is a **high-flexible, compact-footprint** machine (**only 3sq m**) which can considerably **improve performance and productivity** at a **reasonable purchase price**
- **For big companies** to make prototypes and custom products as well as to support CNC centers in doing horizontal boring (BS Evolution is more accurate !)

ENDPRODUCTS APPLICATIONS

- **kitchens and bathrooms** (wall units, cabinets , shelves etc...)
- **bedrooms and kids bedrooms** (wardrobes, night tables, chest of drawers, writing desks, book-cases)
- **shops and hotels** (cash and reception desks, showcases, cabinets)
- **Craft and design** (sliding doors for wardrobes or wooden-panels for living-room cabinets **over 1 mt width - ONE OF OUR STRENGTHS MAKING THE MACHINE UNIQUE**)

MATERIALS AND DIMENSIONS

- Laminates
- MDF
- Multilayer (MFC)
- Composit
-



This machine can work panels of any length and over 1 mt width up to 70 Kg weight - THIS IS ONE OF OUR STRENGTHS MAKING THE MACHINE UNIQUE.

MAIN FEATURES

MECHANICS

1. STRUCTURE :

Design and project developed by Maggi, the extremely strong framework is made of hardened and worked steel

2. BORING-HEAD UNIT

It's manufactured by FAM company on a MAGGI project. FAM is a leading Italian company in the field; it has produced more than 100.000 boring-head units over the years and it is the official supplier of SCM Group, Holz-Her, Felder, Gannomat and many others.

Our boring-head is extremely sturdy, steady and reliable; it is made from the finest components and made up of 16 independent spindles:

- **11 vertical - OUR STRENGTH more spindles allow the set-up of all-purpose tool warehouse to achieve the greatest flexibility**
- 4 horizontal for 2nd and 3rd side
- 1 horizontal for 4th side
- 1 grooving saw

3. BORING-HEAD SETUP STRATEGIES

If You have to carry-out a **wide -variety-small-volume production**, You can mount a **whole range of different tools on the boring-head** on a first step, and then carry out all operations **with no extra setup (ZERO-TIME SETUP)** to this purpose we are offering our customers a **TOOLS-BOX (starter kit)** made up of several tools, a saw blade and drill bits of different lengths and diameters.

If You have to carry-out a **large-volume production in a series** You can considerably speed-up the working process just by mounting customized drill-bits for specific purpose.

4. BORING REFERENCE STOPS

More reference stops means higher accuracy in the operation, and on this machine You have 3 of them:

- **MECHANICAL REF. STOP controlled by the software:** it is also called "zero point" and is positioned to the right side of the machine.
- **LASER SENSOR controlled by the software** to check the actual panel length and to automatically readjust the drilling process - i.e. position of the holes involved in the panel-matching- accordingly.

- **MECHANICAL REF. STOP manual UNIQUE OF ITS KIND** the exact width of the panel is shown on the digital read-out display well integrated on the panel-pusher device

5. INNOVATIVE SYSTEM TO OBTAIN THE PERFECT PANEL-MATCHING **THE MOST IMPORTANT STRENGTH MAKING THE MACHINE UNIQUE.**

When drilling horizontally the panel is effectively and steadily clamped on the working table, while holes are drilled by a tool moving inside the panel itself; this drilling concept ensures the highest accuracy and consequently the perfect matching of wooden panels even though their surface is not perfectly flat.

6. MOVEMENT OF BORING-HEAD AND CLAMPING UNIT

with brushless motors, along linear guides on a ball screw, to ensure the best ratio between accuracy and durability.

7. CLAMPING UNIT **ONE OF OUR STRENGTHS MAKING THE MACHINE UNIQUE.**

It is extremely sturdy and steady, made of steel, it can easily carry weights up to 70 Kg !!! It is well-dimensioned to effectively clamp and handle raised and fielded panels such as those to be seen in the picture below ...

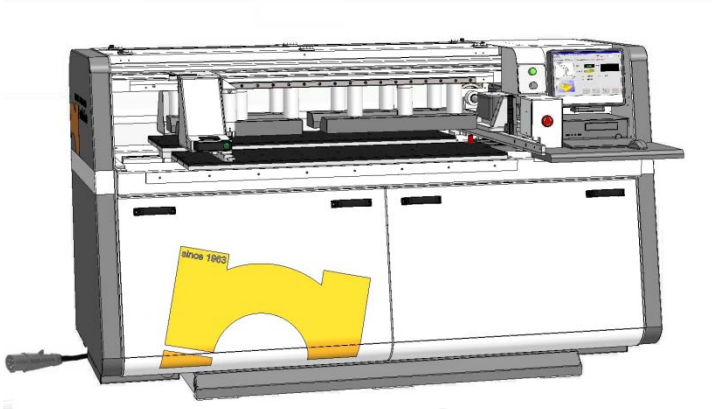


- ## 8. AIR FLOATATION TABLES **THIS IS ONE OF OUR STRENGTHS MAKING THE MACHINE UNIQUE** allow the operator to handle even the largest panels very easily and comfortably and to slide them without any friction, always preventing the them from scratches!

- ## 9. AUTOMATIC LUBRICATION of Y/Z axes **ONE OF OUR STRENGTHS MAKING THE MACHINE UNIQUE;** controlled by software

10. **CLEANING** The **most effective cleaning** is ensured by automatic blowers, blowing away dust and chips at the end of any working cycle

SOFTWARE



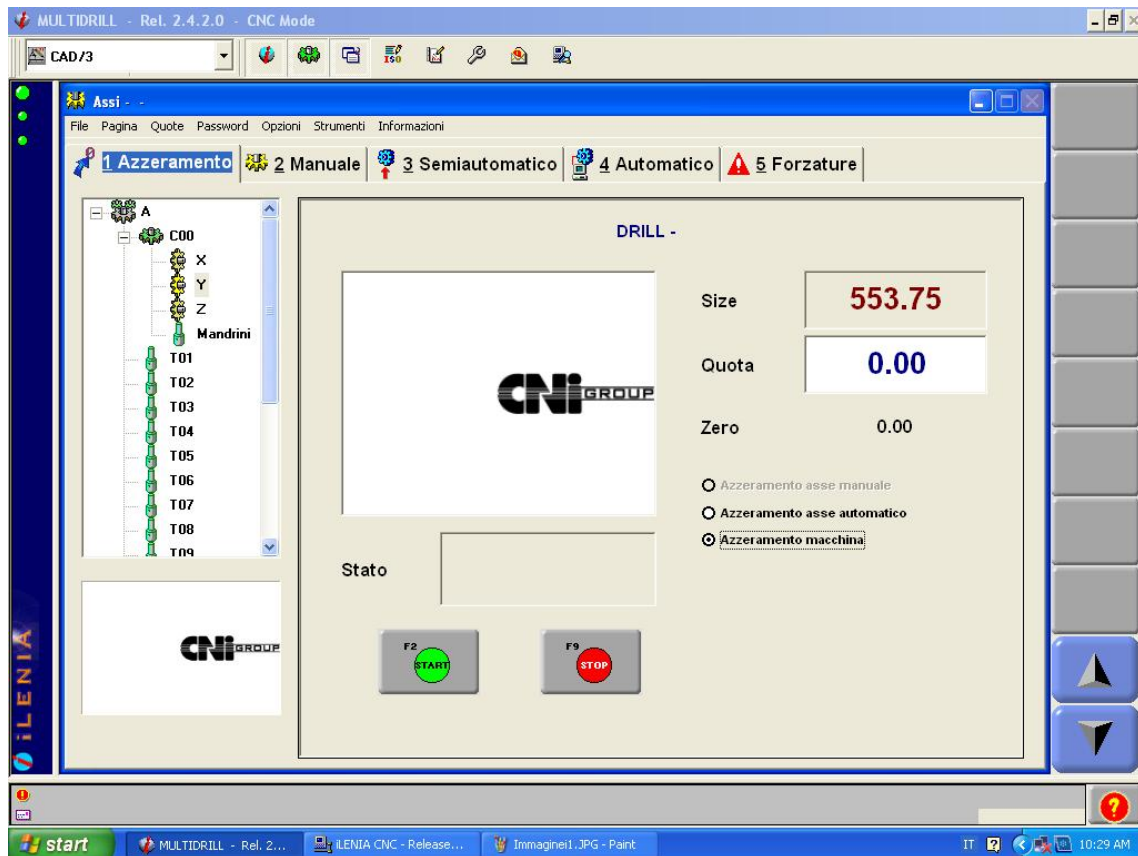
Hardware

- CNI industrial PC: 160 Gb, RAM 1Gb expandable up to 2 Gb
- Screen 15"
- *Keyboard and mouse*
- *n.7 USB ports (n.2 front and n.5 rear) + n.1 Ethernet port*
- *n.1 Serial port for barcode reader*

Integrated Software

- Operative System : Windows XP embedded
- CNC System for automation: ILENIA SYSTEM developed by company CNI
- CAD/CAM Software
 - CAD 4 to make drawings and to translate them into CNC programs (recognized formats DXF/CID/CID3)

MAIN FUNCTIONS OF ILENIA SOFTWARE

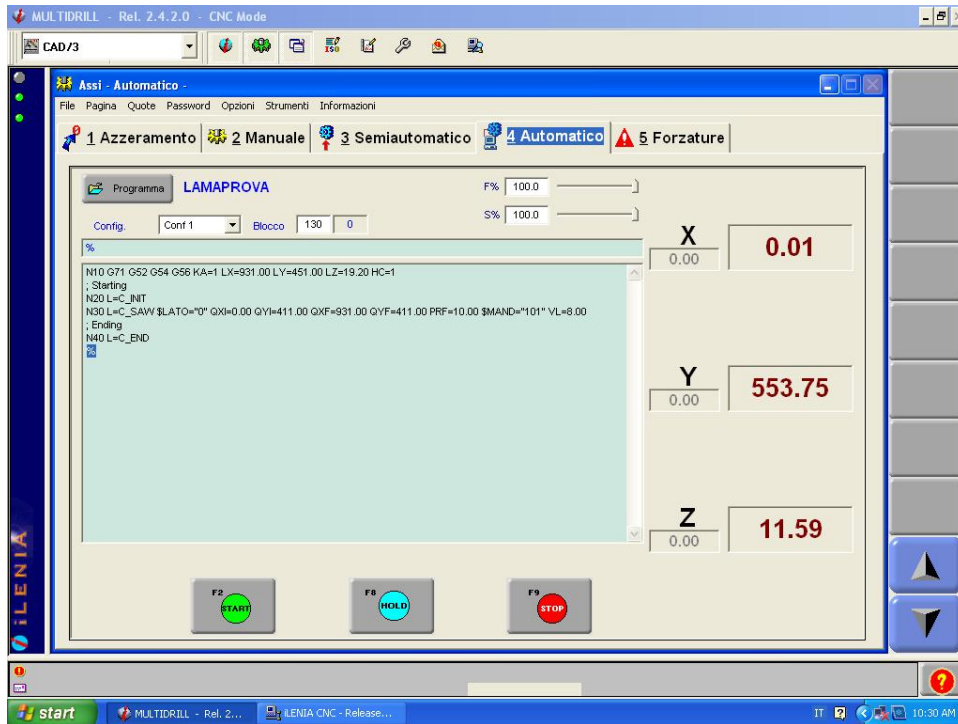


A. MAIN MENU

When the machine is switched on you have to reset the machine axis in order to find the reference points (X , Y , Z).

Procedure as following: from menu "AXES"

1. select "Zero setting"
2. select "START"
3. Wait the full zero setting confirmation, *highlighted by 3 green LED in the upper left side*

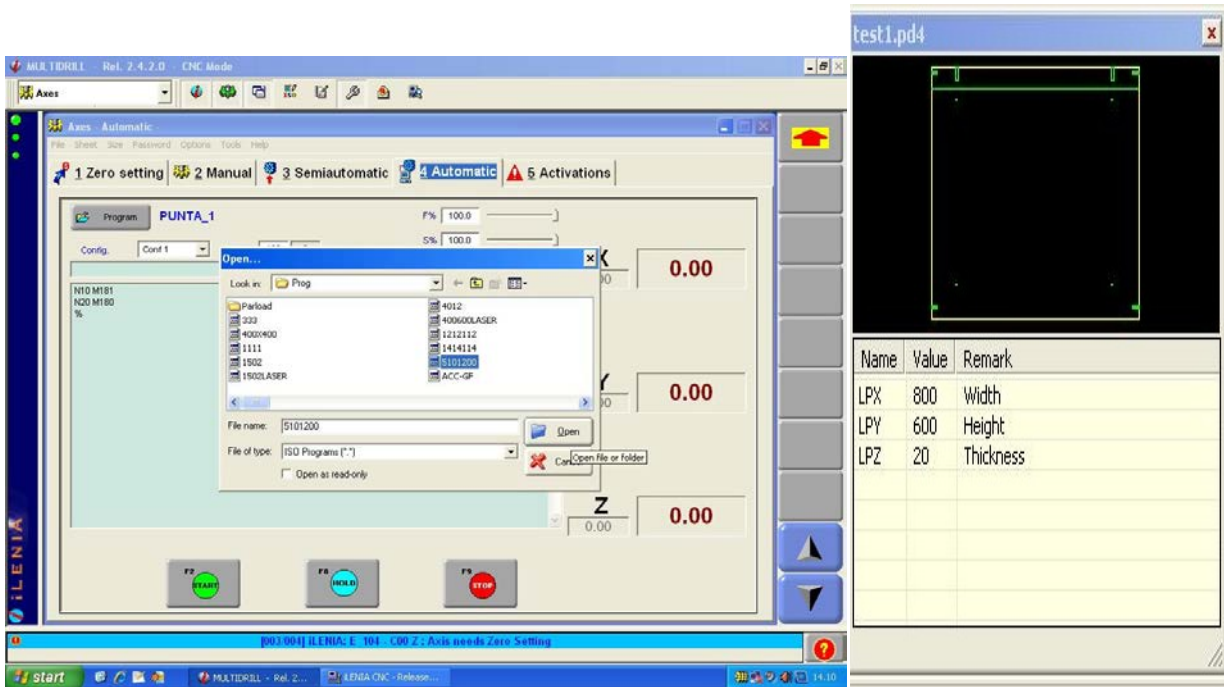


B. STARTING A WORKING PROCESS

To start a working process you have to select menu “CAM 3”

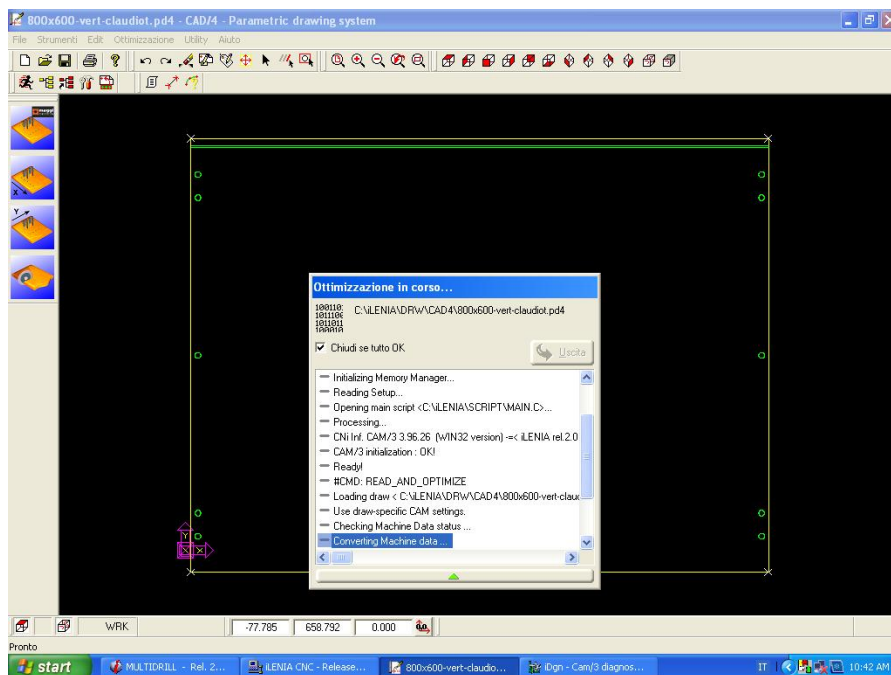
1. Select AUTOMATIC
2. Select the icon “Program”
3. Select a panel working program already stored.

Make sure that the boring-head is equipped with all tools required, to this purpose we are offering our customers a **TOOLS-BOX (starter kit)** made up of several tools, a saw blade and drill bits of different lengths and diameters.



C. How to select a new file from a list of stored programs

1. select CAD 3 to visualize the list of stored programs
2. the preview is shown in the window on the right side of the screen



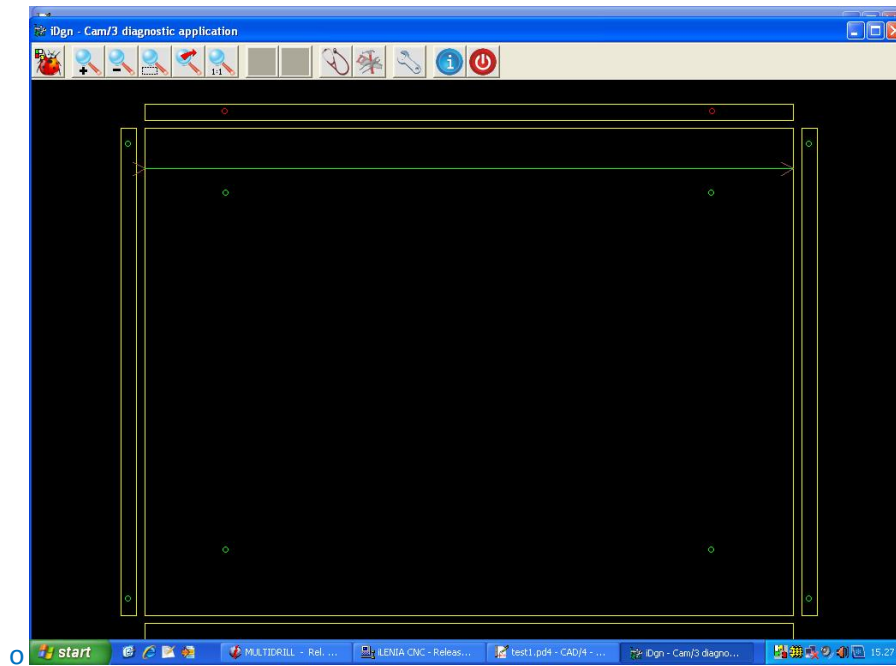
D. How to start CAM 3

-This is the last screen where You can confirm the working procedure and start the CAM 3 post-processing and optimiser

Select the icon up to the left identified by a running man

CAM 3

1. translate all working instructions into ISO language
 2. automatically add instructions for the tools
 3. establish the shorter procedure to carry out the operations
-

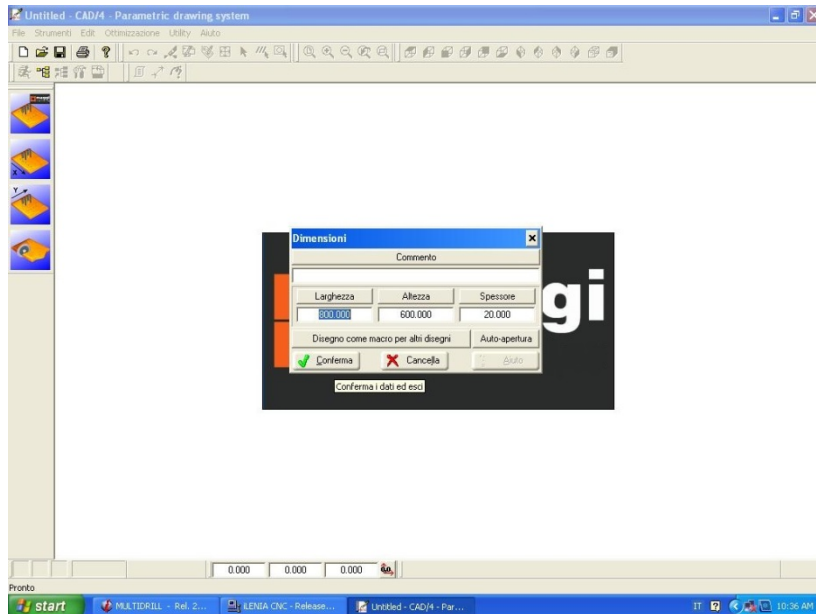


Cabinet base as an example - focus on all operations and alarms

-In this screen You can visualize all operations programmed with CAD 4

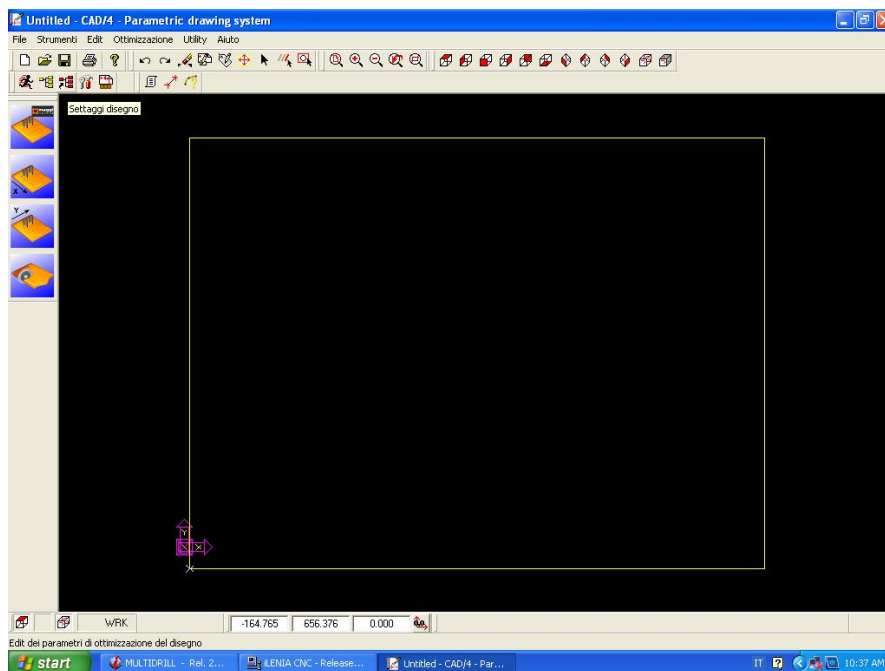
CAM 3 also verify that programmed operations are consistent with panel dimensions and kind of tools available on the boring-head; all out-of-range operations are visualized in red and the operator has to make relevant changes to allow the process (panel dimensions, tools)

(Have a look at the lower bar showing You active softwares)

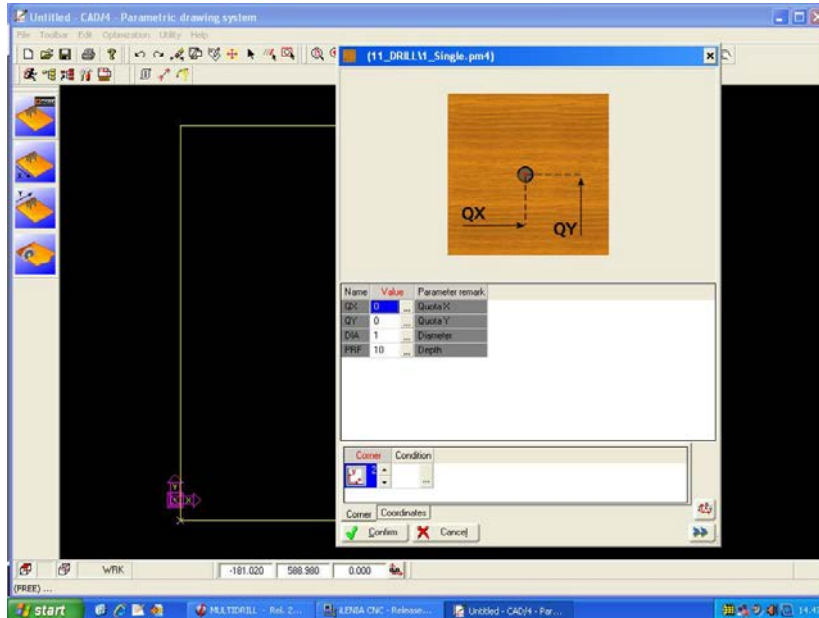


Example of first page of CAD 4 to make cad processing program of a new panel

-This first window of CAD 4, requires the size of the panel that you would like to work. Length = Y , Width= X and Z for thickness.

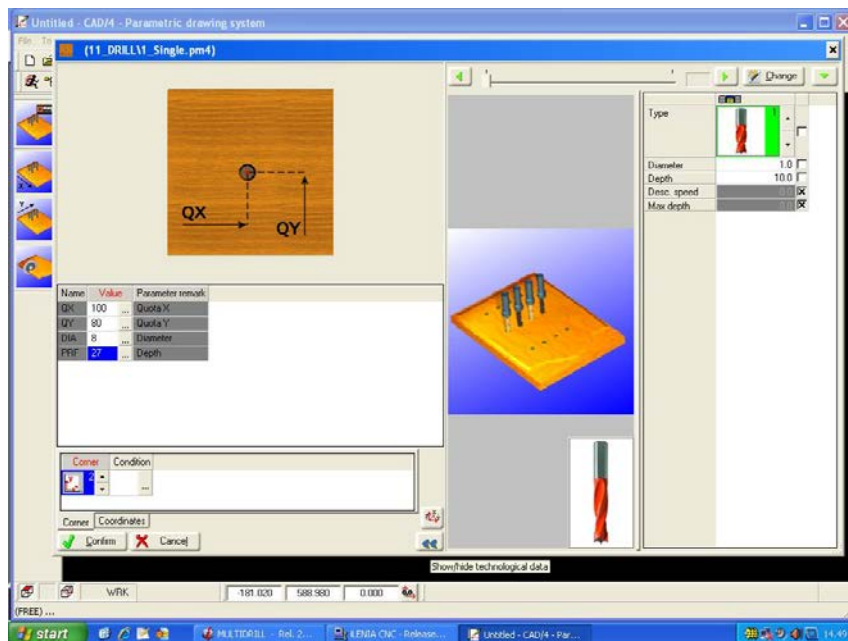


-This screen shows graphically the panel set and in the bottom left corner the point reference "Zero to start working".



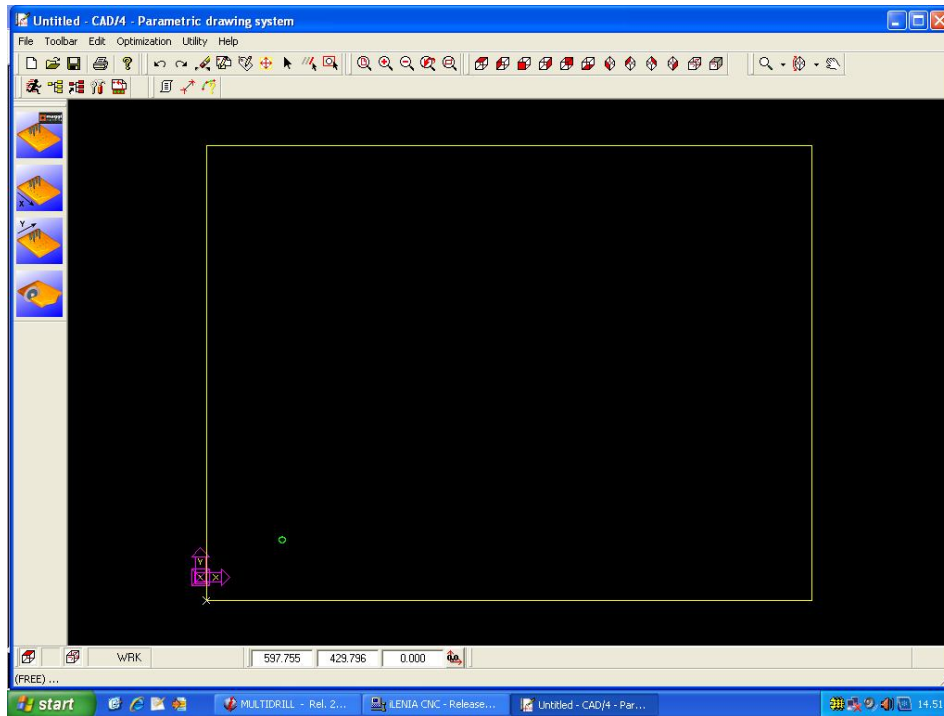
E. CHOOSING A TYPE OF MACRO

Select the type of MACRO available for machining possibilities.

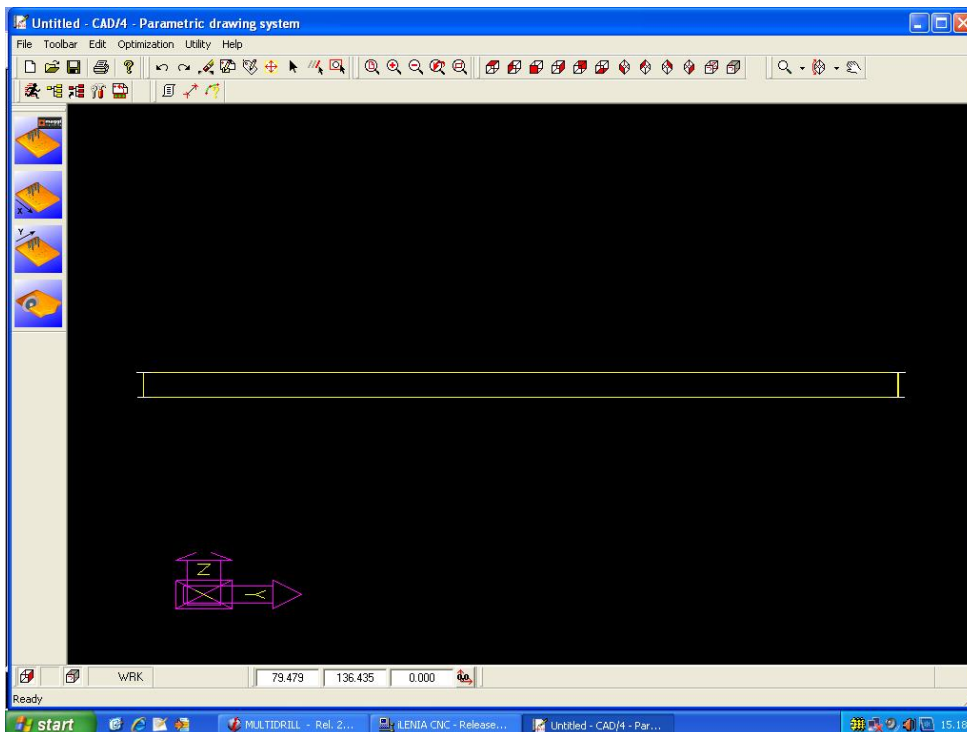


F. DEFINITION OF THE CHARACTERISTICS OF THE MACRO

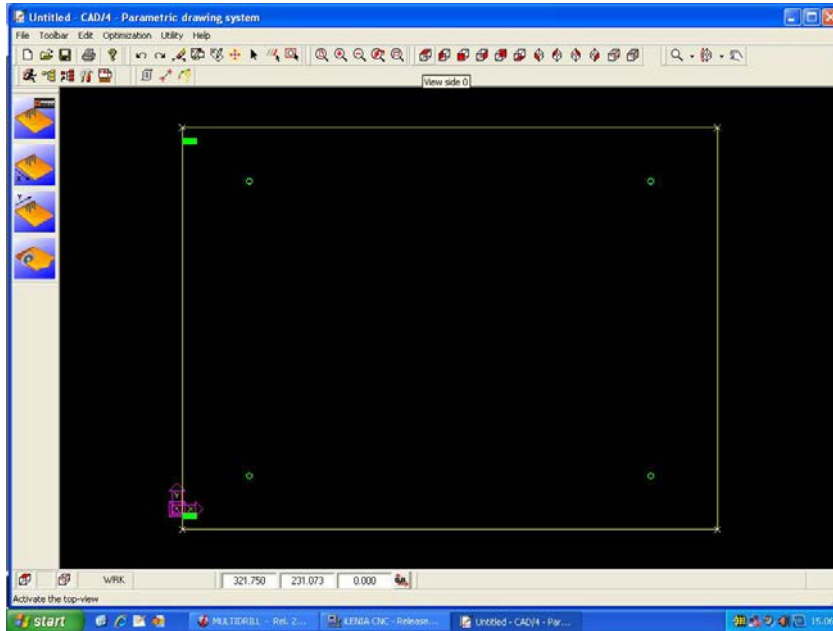
1. selection of the location of the hole in the panel
 2. selecting the type of tool for blind holes, through holes , etc,
 3. Select the tool diameter
-



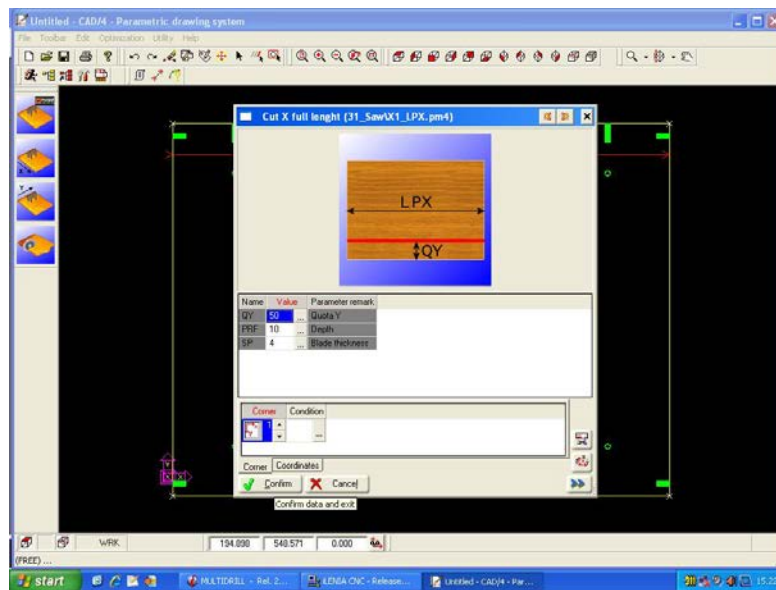
A- example of hole drawn on the panel “ in top view “



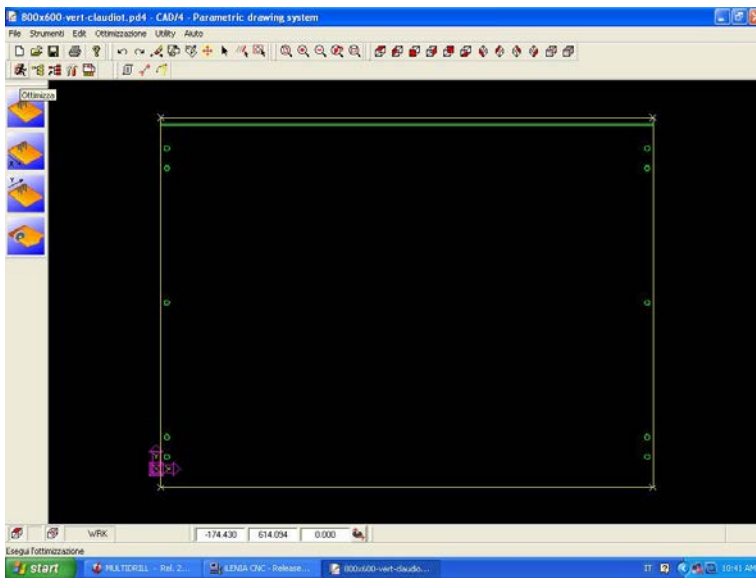
B-example of side orientation of panel



(C-example of designed holes on the panel "side 1")
 Optional parametric size selection compared to reference dimensions

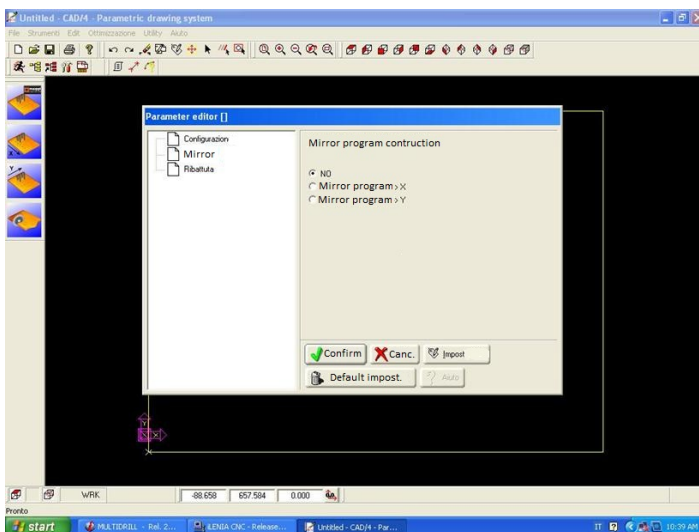


(D-example of selection of the Macro for grooving panel.)

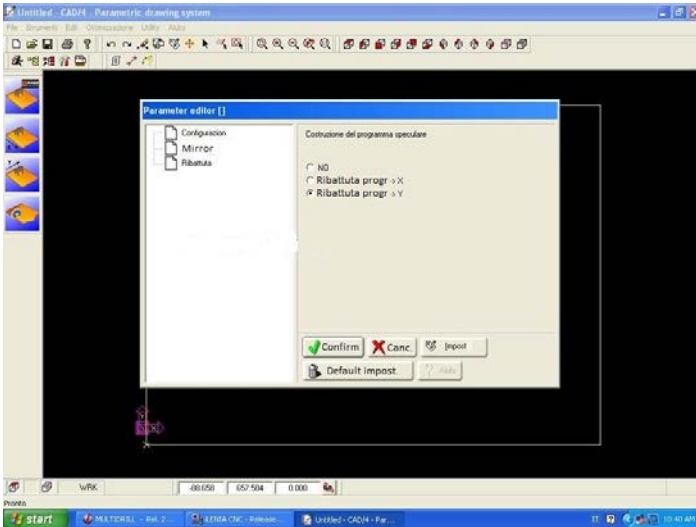


Among the options required you must enter the parameters of the length, depth and position.

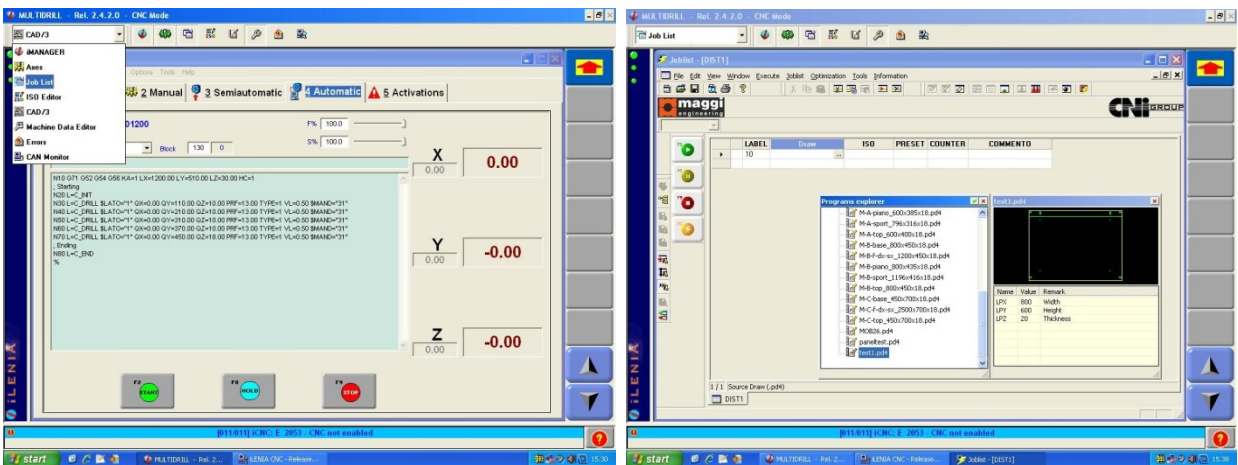
EXAMPLE of working in a cabinet's side
Here we set the "optional" options, described on figures (F-G).



F-example of orientation of working panel

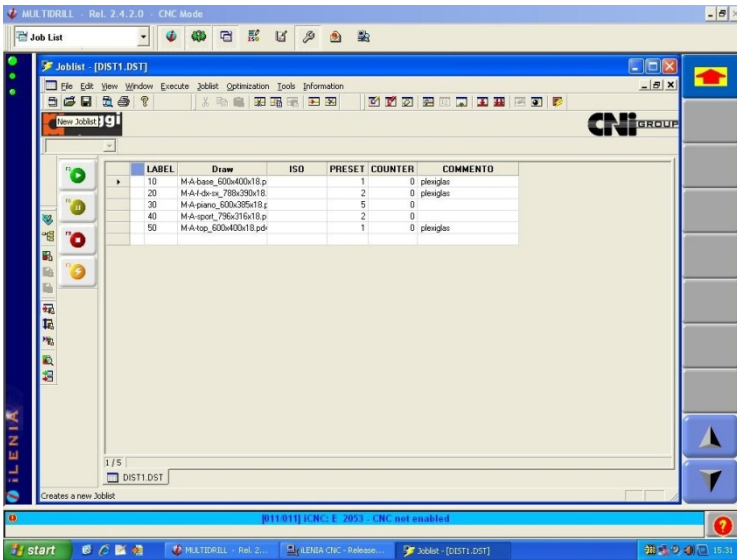


G-example of selection of the laser optional fence



G. Selecting programs for the creation of a cabinet and consecutive creation of a "JOB LIST"

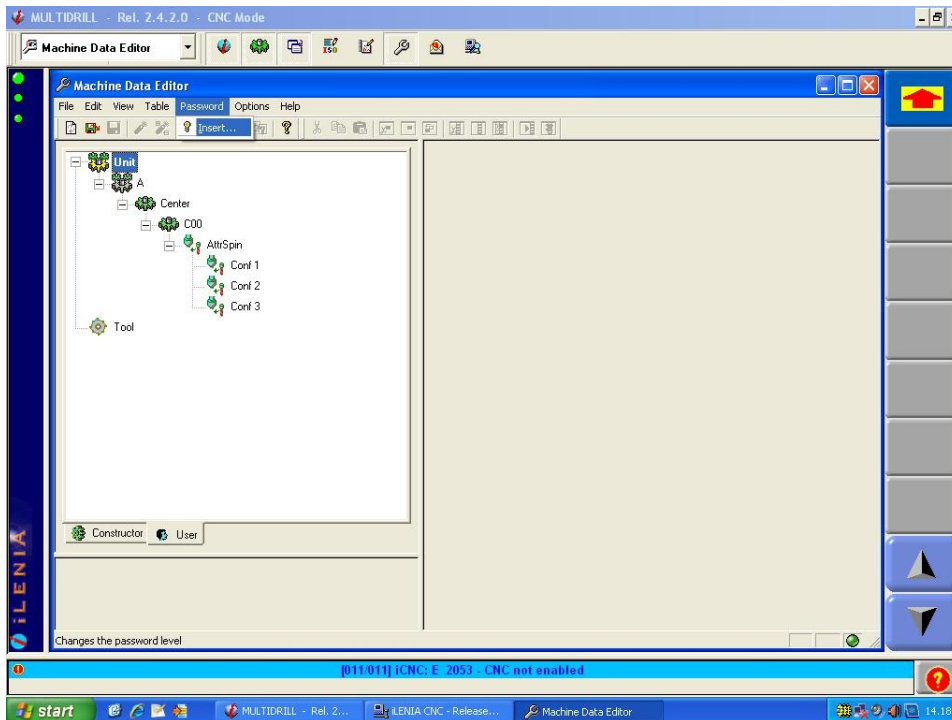
-By selecting the icon "JOB LIST", you create a list that refers to the creation of a "Cabinet", inside the list you may add necessary CAD 4, taking them from the stored programs.
To complete the bill, you add the amounts for each panel and then you save the "JOB LIST", with a name.



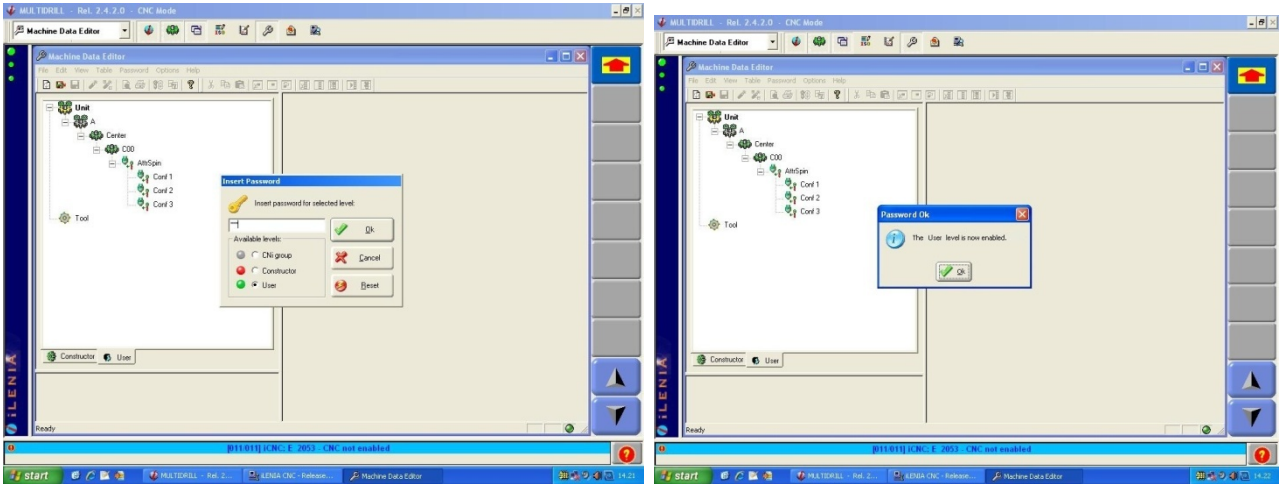
(example of chosen Job List)-

-The display indicates a JOB LIST, listing the various panels included.

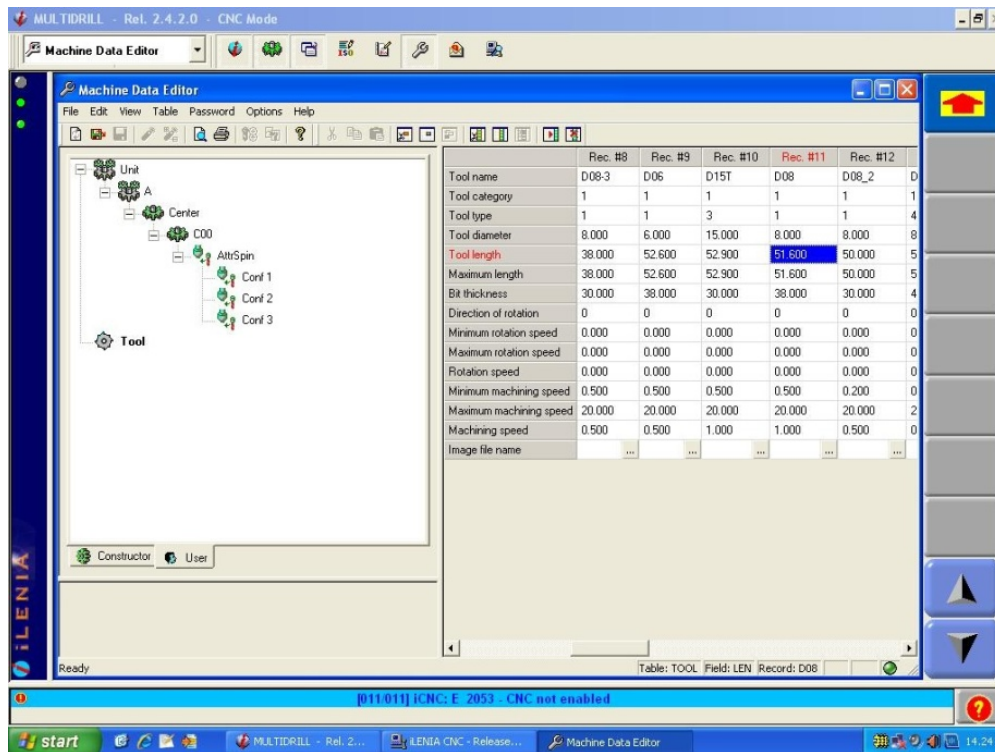
1. Select "START" to run all your panels as shown in the JOB list,



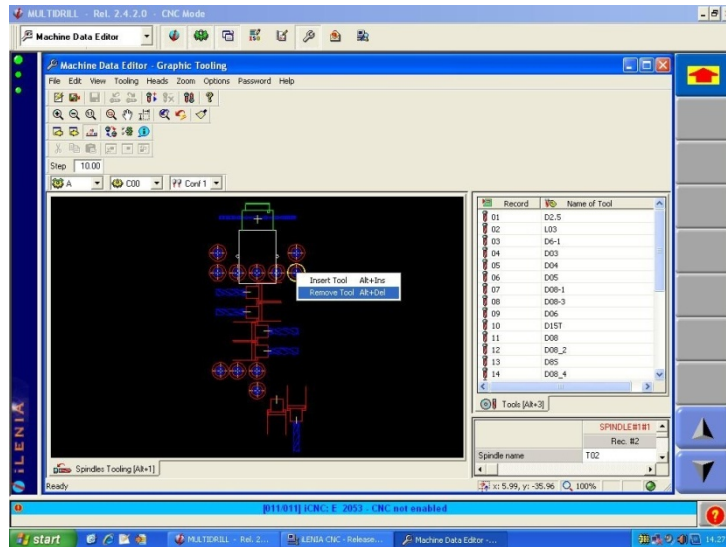
Instructions for inserting or removing tools



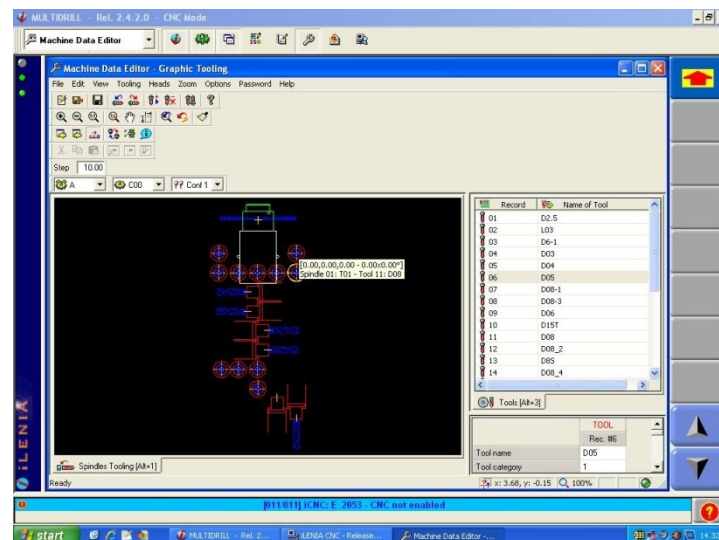
to access the tool setting, you must enter the "USER" password and then you will get access.



tool table where each tool diameter, length and shape are listed, that you interpret as a type 1/2/ect.



viewing procedure of "insertion/removal" tool



"graphics" view of the types and locations of various tools on machining head.

Supplied software

- software for Remote Assistance Team Viewer-Optional wi-fi usb key
- management software for barcode reader-reading - Optional reading wi-fi gun
- software for web-cam, useful for remote assistance and viewing working head
- Optional web-cam with USB cable
- Windows XP-Embedded arranged for automatic software updates (only when connected to Internet and managed by corporate network technician with the necessary safety "antivirus" devices).

The software is standard in the following languages: Italian, English, Spanish, Polish, Russian.

DATI TECNICI (Norme CE) - STANDARD TECHNICAL DATAS (CE regulations)	MAGGI	VITAP	WEEKE	HOLZ HER	MASTEWOOD	FELDER	SCM	SCM
MODELLO MACCHINA MACHINE MODEL	Boring system Evolution 1000	POINT 2	BHX 050	Evolution 7403	PROJECT TF100	C-EXPRESS 920	CYFLEX H800	CYFLEX F900 PRO
VERSO DELLE LAVORAZIONI WORKING DIRECTION	Orizzontale Horizontal	Orizzontale Horizontal	Verticale Vertical	Verticale Vertical	Orizzontale Horizontal	Orizzontale Horizontal	Verticale Vertical	Verticale Vertical
MAX DIMENSIONE PANNELLO - MAX. WORKPIECE DIMENSIONS	X: 3200 mm infinito -unlimited Y: 1020 mm Z: 50mm	X: Infinito / unlimited Y: 920mm Z: 50mm	X: 2500 mm (opz.3050 mm) Y: 850mm Z: 60mm	X: 3500 mm Y: 920mm Z: 70 mm	X: Infinito/unlimited Y: 1000mm Z: 60mm	X: Infinito/unlimited Y: 920mm Z: 50mm	X: 3050 mm Y: 810mm Z: 60mm	X: 3000 mm Y: 900mm Z: 50mm
MIN. DIMENSIONE PANNELLO - MIN. WORKPIECE DIMENSIONS	X: 300 mm Y: 80 mm Z: 8mm	X: 270 mm Y: 150mm (opt.70 mm) Z: 12mm	X: 200 mm Y: 70 mm Z: 12 mm	X: 200 mm Y: 70 mm Z: 8 mm	X: 250 mm Y: 80 mm Z: 10 mm	X: 270 mm Y: 150 mm Z: 10 mm	X: 200 mm Y: 80 mm Z: 10 mm	X: 150 mm Y: 70 mm Z: 10 mm
MAX PESO PANNELLO MAX. WORKPIECE WEIGHT	70Kg	25Kg.	?	?	?	30Kg	?	?
MOVIMENTAZIONE PANNELLO PANEL HANDLING	PINZA GRANDE per pannelli modanati WIDE CLAMPING UNITfor moulded panels	CINGHIA FEEDING BELT	PINZA piccola small CLAMPING UNIT	PINZA piccola small CLAMPING UNIT	PINZA piccola small CLAMPING UNIT	CINGHIA FEEDING BELT	PINZA piccola small CLAMPING UNIT	PINZA piccola small CLAMPING UNIT
VELOCITA' MAX ASSI (m/min.) - MAX AXIS SPEEDS (m/min)	X,Y=42 without panel (ce standards X=25 with panel) Z=15	X,Y=30 (CE standards X=25) Z 15	X,Y=45 without panel (CE standards X=20 with panel) Z=15	X=20 Y=60 Z=20	X=25 Y=50 Z=25	X=30 Y=30 Z=30	X,Y=25-28 Z=15	X,Y=40 Z=15
N. MANDRINI VERTICALI - VERTICAL DRILLING SPINDLE N.	11 magazzino utensili tool-magazin	8	8	9	10	8	8	8
DIAMETRO LAMA profondità canale - DIAMETER for grooving	Ø120	Ø100	Ø100	?	Ø125	?	Ø120	Ø120
Motore Pantografo Routing motor	NO	optional 1,7 KW	ETP 5 KW	ER/ 5,6 Kw	optional 3,3 KW	ER / 3,3 Kw	?	?
Assorbimento macchina Power consumption	3 Kw	?	11,5 Kw	?	?	?	?	?
POTENZA MOTORE MANDRINI - SPINDLES MOTOR POWER7speeds	1,5Kw - 3200 giri/speeds	1,5Kw - 3600 giri/speeds	2,2Kw (2500-7500 giri/speeds)	?	1,7 Kw - 4000 giri/speeds	?	2,2Kw - 4000 giri/speeds	2,2Kw - 4000 giri/speeds
PIANO DI LAVORO WORKING TABLES	A velo d'aria ant-post. Su tutta la superficie del piano Front-rear wide surface air floatation tables	Piano a rullini/Working table with rollers	Piano a setole rigide di plastica e rullini/Working table with rigid plastic bristles and rollers	Piano a rullini	Piani a velo ant./post. Solo vicino alla testa + Rullini Front-rear narrow air floatation tables close to the head+ rollers	Piano a rullini	?	?
NUMERO RIFERIMENTI PER FORATURA NR. OF MACHINE REFERENCES	3	2	2	2	2	2	2	2
BATTUTA LASER - LASER REFERENCE STOP	SI/YES	SI/YES	SI/YES	?	SI/YES	SI/YES	SI/YES	SI/YES
3° BATTUTA RIF. IN "Y" 3rd REFERENCE "Y"	Manuale + display controllo dimens. Manual + display to read out panel width.	Manuale/Manual NO DISPLAY	No	No	Manuale/Manual NO DISPLAY	Manuale / Manual NO DISPLAY	No	No
SCHERMO / SCREEN	15"	15"	17"	19"	17"	19"	17"	17"

INGOMBRO MAX MACCHINA - OVERALL MACHINE DIMENSIONS	2,86 MQ	2,97 MQ	4,75 MQ	3,43 MQ	4,79 MQ	2,50 MQ	5,90 MQ	6,66 MQ
PESO NETTO MACCHINA - NET MACHINE WEIGHT	1100 Kg	715 Kg.	1500 kg.	1800 Kg	1300 Kg	850 Kg	1100 Kg	1300 Kg

