

RECORD 120 NWT

Centro di lavoro a CNC per la produzione di porte e finestre

 scm

RECORD 120 NWT

Finestre di ogni tipo, con una sola macchina

RECORD 120 NWT è stato pensato e sviluppato per permettere alle aziende artigiane e alle piccole industrie di fare tutta la produzione su una sola macchina e alle industrie più grandi di produrre tutte le finestre speciali fuori dalle linee.



- Può produrre indifferentemente finestre ad arco o trapezoidali o di qualsiasi altra forma e con qualsiasi tipo di giunzione.

- Esegue tutte le lavorazioni necessarie senza richiedere passaggi su altre macchine.

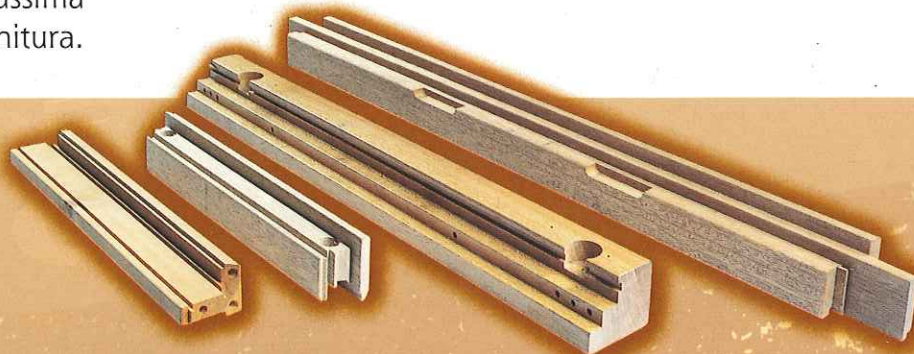
- Può produrre elementi prefiniti da assemblare oppure profilare le ante dopo

l'assemblaggio.

RECORD 120 NWT è in grado di effettuare tutte le lavorazioni accessorie richieste sui singoli elementi. Può montare fino a 4 pezzi contemporaneamente, che significa, nella maggioranza dei casi, produrre in un solo ciclo l'anta o il telaio completi. Particolare attenzione è stata dedicata al processo di lavorazione completa interna ed esterna degli archi, alla squadratura delle ante ed alla profilatura degli elementi singoli per garantire la massima precisione e finitura.



- Garantisce una precisione impossibile con processi tradizionali.
- Per elaborare la distinta dei pezzi ed eseguire i programmi di produzione basta imputare poche informazioni ad un programma di facilissimo uso.
- Inoltre è stato progettato per eseguire anche tutte le lavorazioni sulle porte.

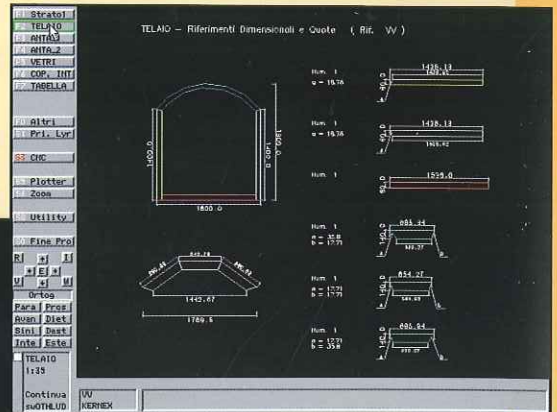
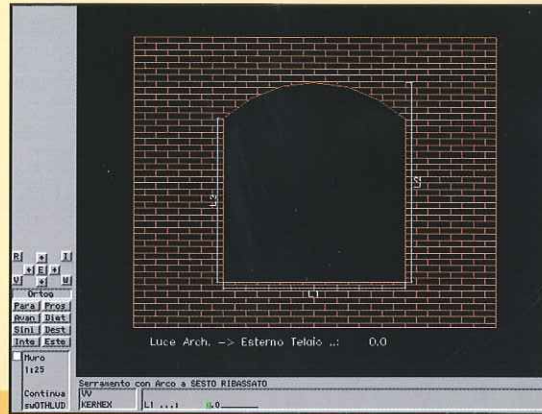


PROWIN

Il programma per la macchina mentre si disegna la finestra

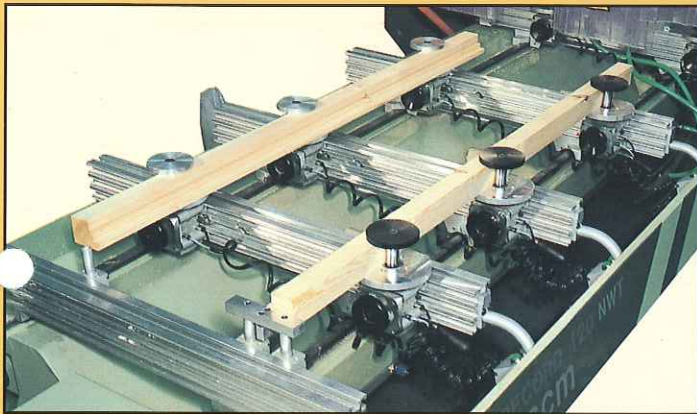
PROWIN è il potente ed avanzato sistema CAD-CAM di cui dispone **RECORD 120 NWT**.

Partendo dalla dimensione nominale della finestra, **PROWIN** sviluppa tutti i componenti fornendo la distinta completa dei pezzi con i disegni del finito, del grezzo, dei vetri ed il programma per la macchina pronto per essere eseguito.



Bloccaggio di elementi singoli e finestre assemblate

versatile, affidabile e sicuro, con robusti morsetti pneumatici posizionabili in funzione delle esigenze.

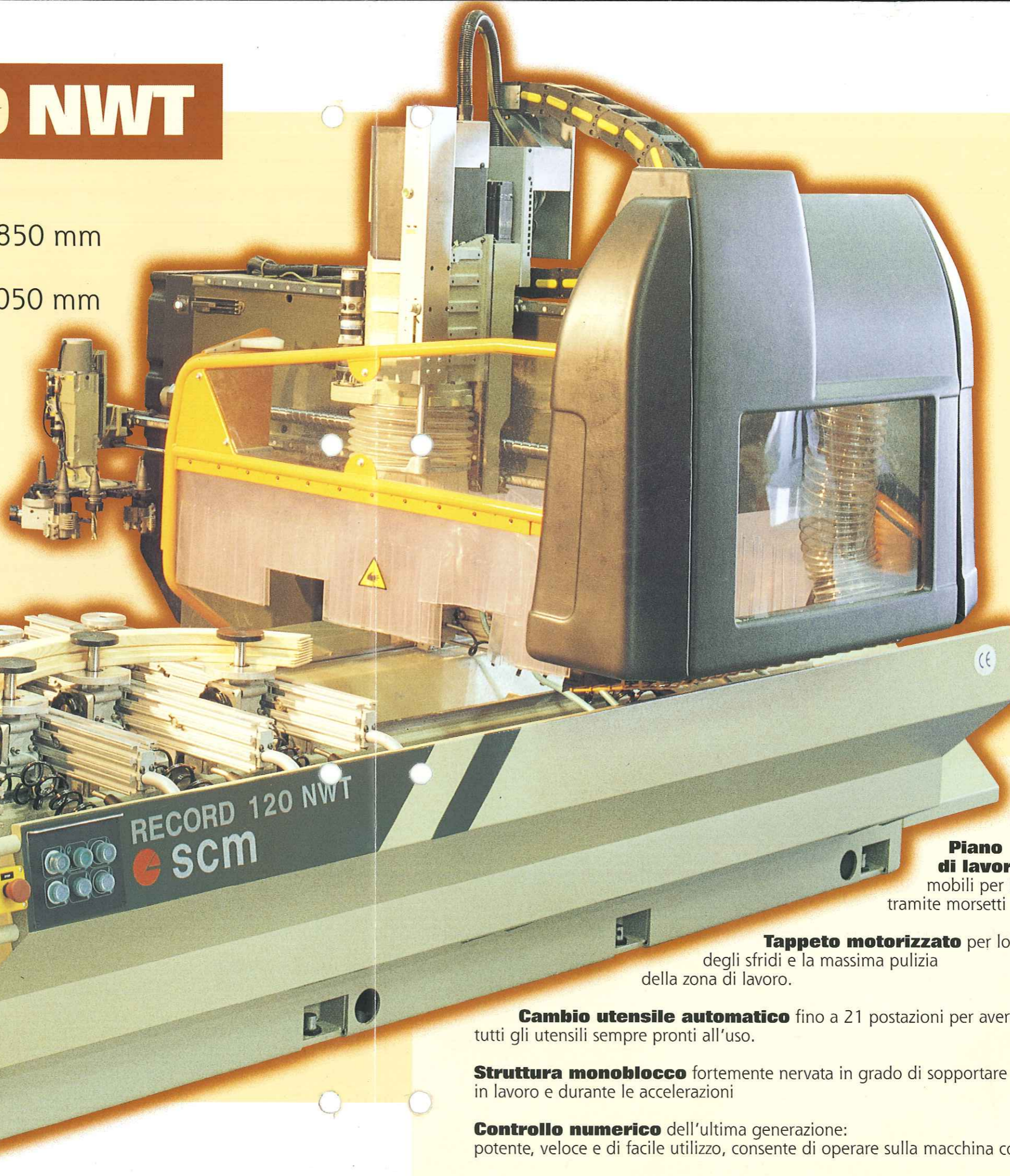


Bloccaggio di porte

veloce ed efficace tramite depressione con sistema di ventose posizionabili secondo le necessità.

RECORD 120 NWT

- Corsa di lavoro asse "X" = 2850 mm
- Corsa di lavoro asse "Y" = 1050 mm
- Corsa asse "Z" = 250 mm
- Elettromandrino 10 Hp



Piano di lavoro composto da barre mobili per il fissaggio dei pezzi tramite morsetti pneumatici o ventose.

Tappeto motorizzato per lo scarico automatico degli sfridi e la massima pulizia della zona di lavoro.

Cambio utensile automatico fino a 21 postazioni per avere tutti gli utensili sempre pronti all'uso.

Struttura monoblocco fortemente nervata in grado di sopportare elevate sollecitazioni in lavoro e durante le accelerazioni

Controllo numerico dell'ultima generazione: potente, veloce e di facile utilizzo, consente di operare sulla macchina con estrema semplicità.

RECORD 120 - NWT

CONCEPT

This is a CNC machining centre with continuous and simultaneous movement along 3 or more axes. The worktable offers easy access to the operator during setting-up and loading/unloading of workpieces even during machining and is multi-purpose to solve all component clamping and location requirements. The machining head is mobile along X, Y and Z axes and is fitted with a safety guard to protect the operator from any impact or ejection of material. The control console and electrics are housed in a separate cabinet.

MACHINE STRUCTURE

Structural components of the machine (machine base and mobile upright) are of electrowelded, stabilized steel, ribbed for stiffness. Designed using the latest computerised systems, the monobloc structure has the rigidity and strength necessary for complex, heavy duty routing and machining jobs to guarantee a high precision quality finish. No anchoring to floor is required.

MACHINING HEAD

This is composed of a routing unit with a high-power electro-spindle supported by a robust structure moving along Z axis and CNC controlled. A pneumatic counter-balance stabilizes the vertical load of the whole unit allowing agile and accurate movement. A 10-position automatic tool changer is fitted to the mobile upright pre-arranged for the management of special angle drive units.

SPINDLE HEAD

The spindle heads, designed and manufactured by SCM, are of an extremely stiff structure to ensure accuracy and offer a powerful, silent, high quality performance.

The main features are:

- * nodular cast iron structure with ample surface area to ensure proper heat dispersion
- * a pair of preloaded ceramic angular bearings
- * structure is kept cool by exhaust air flow
- * exhaust air flow co-axial with electro-spindle
- * grease lubrication for life
- * "Rapid" tool locking
- * high performance 10 HP motor

The streamlined overall assembly facilitates airflow integrated with exhaust, guaranteeing maximum efficiency at 360 degrees to ensure constant cooling of entire surface. A thermic probe placed inside spindle guarantees ideal temperature.

Sensors appropriately positioned prevent electro-spindle from running when exhaust is lacking and block running when system reaches high temperatures.

Automatic selection of stepless spindle speed is CNC controlled within the range of 900 to 18.000 rpm as the machine is standardly fitted with static inverter.

QUICK RELEASE TOOLHOLDER

This consists of a tool holder and a quick locking device guaranteeing secure seating of tool holder in taper in a few seconds, increasing machine flexibility.

The ISO 30 tool holder designed by SCM, enables fixing of 3 to 20 mm. diameter (25 mm as an option) cylindrical shank tools by expansible collet.

Dimensions of tool fitted in the ISO 30 tool holder can be preset by using PRESET 14 contact measuring system of tool dimensions available as an option in order to avoid successive adjustment of workpiece program during setting up or substitution of tool.

Tool holder is seated in taper and automatically locked by means of a mechanical locking device with locking/unlocking push button control. This operation is CNC controlled by calling up automatic tool changer from the workpiece program.

A CNC monitored safety system prevents start-up of the spindle should any fault in the tool holder

locking occur and until locking is completed.

A jet of compressed air inside the bore keeps the cone clean during the tool changing operation. The quick locking device enables the use of SCM special heads (option) such as angle drive drilling and routing heads on jobs where a differently oriented tool axis is required. Rotation is both clockwise and counter clockwise with CNC controlled selection.

AUTOMATIC TOOL CHANGER

This tool changer is composed of a circular tool magazine positioned on mobile upright, with a rotary movement for choice of required tool. The tool magazine, moved by pneumatic cylinders on prism guides with sliding blocks with recirculating balls, positions and removes tool from spindle.

The automatic tool changer reduces production time per piece, increases accuracy, reduces possibility of error and enables machining of intricate workpieces in only one set-up. The automatic tool changer also enables the use of angle drive drilling heads.

EXHAUST SYSTEM

Space between spindle and cylinder which houses it is used for an integral dust extraction system which guarantees maximum efficiency at 360 degrees and differs from the traditional system totally concentrated at exhaust outlet. Steel shaving hood has a flexible brush strap at the base to trap wood shavings and protect operator at the same time.

WORKTABLE

This is composed of a set of pneumatic clamps specifically designed for fixing window elements and assembled windows.

The clamps are positioned on aluminium section bars of large dimensions to guarantee the maximum rigidity during machining. The movement of the bars in 'X' direction, and of the clamps in 'Y' direction on the bars guarantees rapid configuration for fixing any type of workpiece. Reference stops enable accurate positioning of components.

MOTION OF AXES

Motion of axes is conveyed by ground screws and preloaded ball screw assemblies, to eliminate play during reverse feed. Screws are driven by AC Brushless motors ensuring optimum machining accuracy. X, Y and Z axes run on prismatic guides and linear sliding blocks with preloaded recirculating balls to guarantee an optimum stiffness of worktable.

Ball bearings, ball screw assemblies and bushings are lubricated through a manually controlled centralized system to maintain long life performance and efficiency.

Speed of axes is CNC controlled, enabling user to choose the speed according to work requirements.

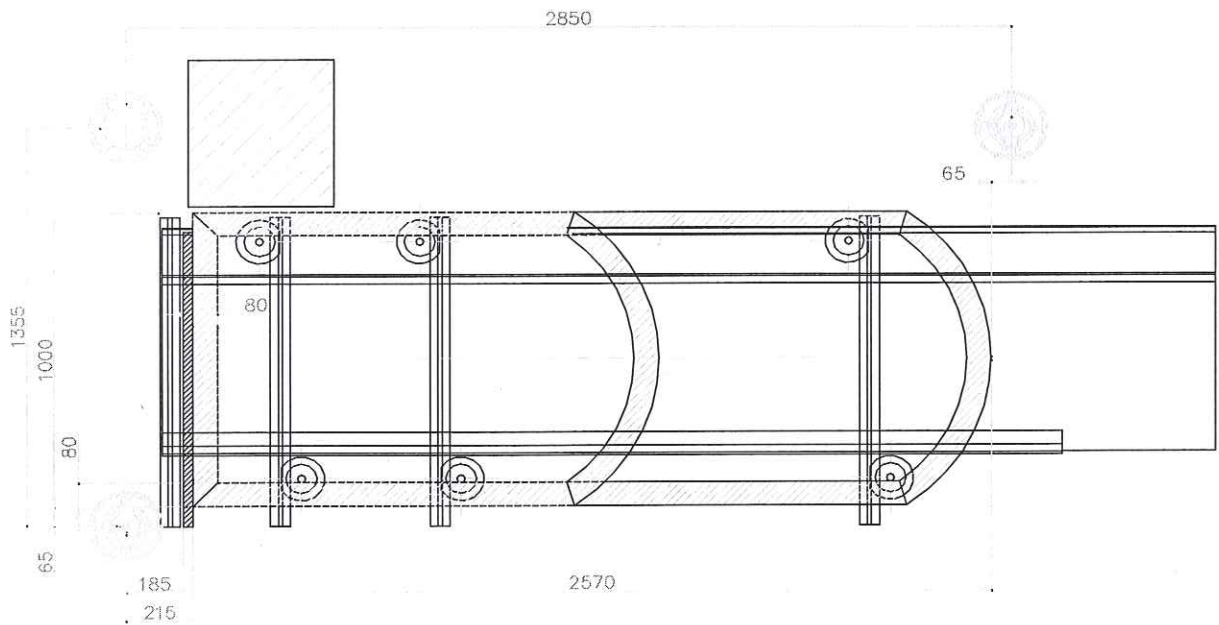
CONTROL UNIT

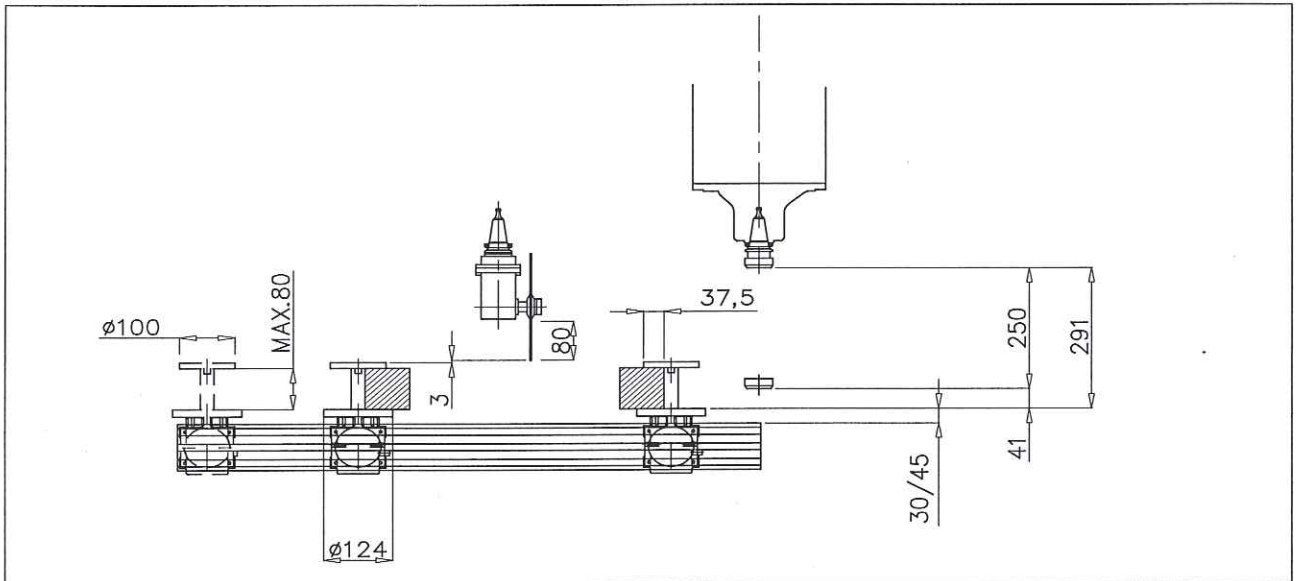
The NUM 1040 CNC control unit has a Personal Computer and ROUTOLINK user interface incorporated for rapid calculation and execution ensuring a high quality finish. This control is extremely easy to learn and use, making the operator-machine dialogue simple and immediate.

Main specifications:

- * user interface to ensure easy machine operation and programming without the need to write codes for the various operations required. Windows and icons displayed on the monitor guide the operator logically through the steps needed to select and activate machine functions such as:
 - * automatic execution of program
 - * program pipeline
 - * manual drive of machine axes by pushbutton
 - * positioning of machine axes
 - * MDI manual mode machine control
 - * program edit list

- * services such as configuration of machine parameters
 - * display of drives
 - * in/out configuration
 - * information state of machine
 - * calculator
 - * enabling of graphic guide to open a new screen display with a whole help series regarding designs/programming such as:
 - straight line between two points
 - arc between two points and centre chord.
 - arc between two points and radius
 - circle
 - ellipse
 - arc or tangent to previous section
 - chamfer or fillet with radius between two elements
 - tangency between straight line and arc
 - tangency between arc and straight line
 - tangent lead-in and lead-out
 - * 2 hardware protection keys
- | | |
|--|---------|
| Traverse of "X" axis | 2850 mm |
| Traverse of "Y" axis | 1065 mm |
| Work height from spindle nose to table top | 291 mm |
| Workpiece working height capacity | 250 mm |





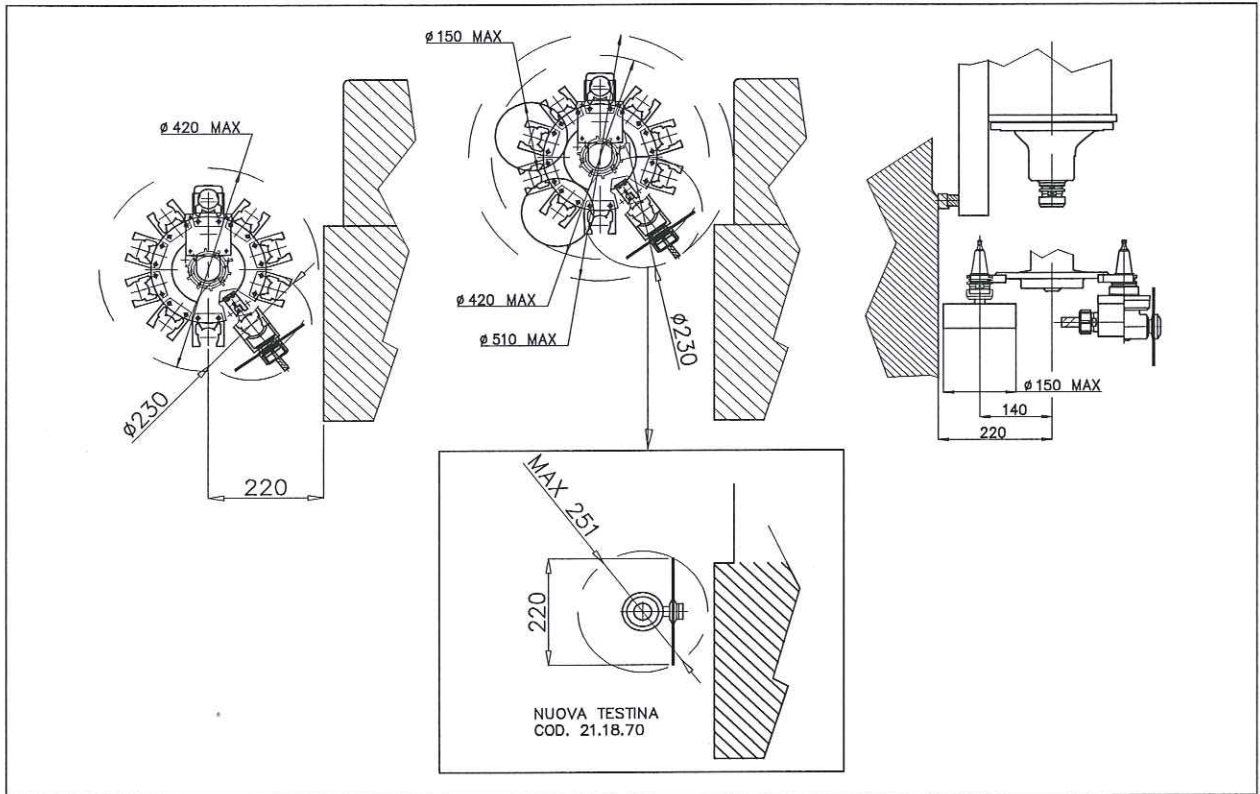
1 HEAD UNIT

- * ISO-30 electro-spindle
- * spindle speed: 900 to 18.000 rpm
- * motor power 10 hp at 12.000 rpm
- * right and left rotation
- * static inverter for stepless speed and rapid shutdown of rotation
- * quick release tool holder
- * exhaust air cooling
- * 5 toolholders for fixing cylindrical shank tools
- * expansible collets standardly supplied
 - nr. 3 diameter 19/20 mm
 - nr. 1 diameter 15/16 mm
 - nr. 1 diameter 12/13 mm
- * manual vertical adjustment of shaving hood with CNC automatic positioning

AUT. TOOL CHANGER RAPID 10:

- * 10 stations
- * centre distance between 2 adjacent tools 85 mm
- * max. weight of tool 4,5 kg
- * max. weight of tools contained in tool magazine 30 kg
- * management potential of 1 angle drive head (2 with VECTOR rotating axis)
- * positioned on mobile upright

MAX TOOL DIMENSIONS DATA ON RAPID 10



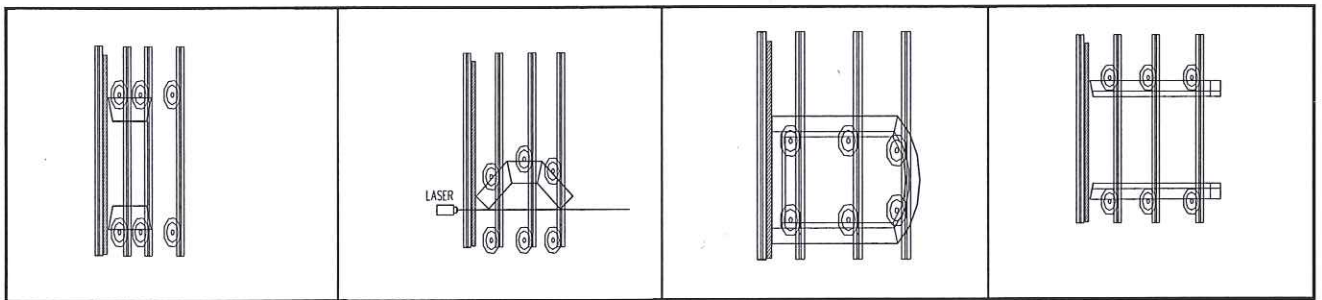
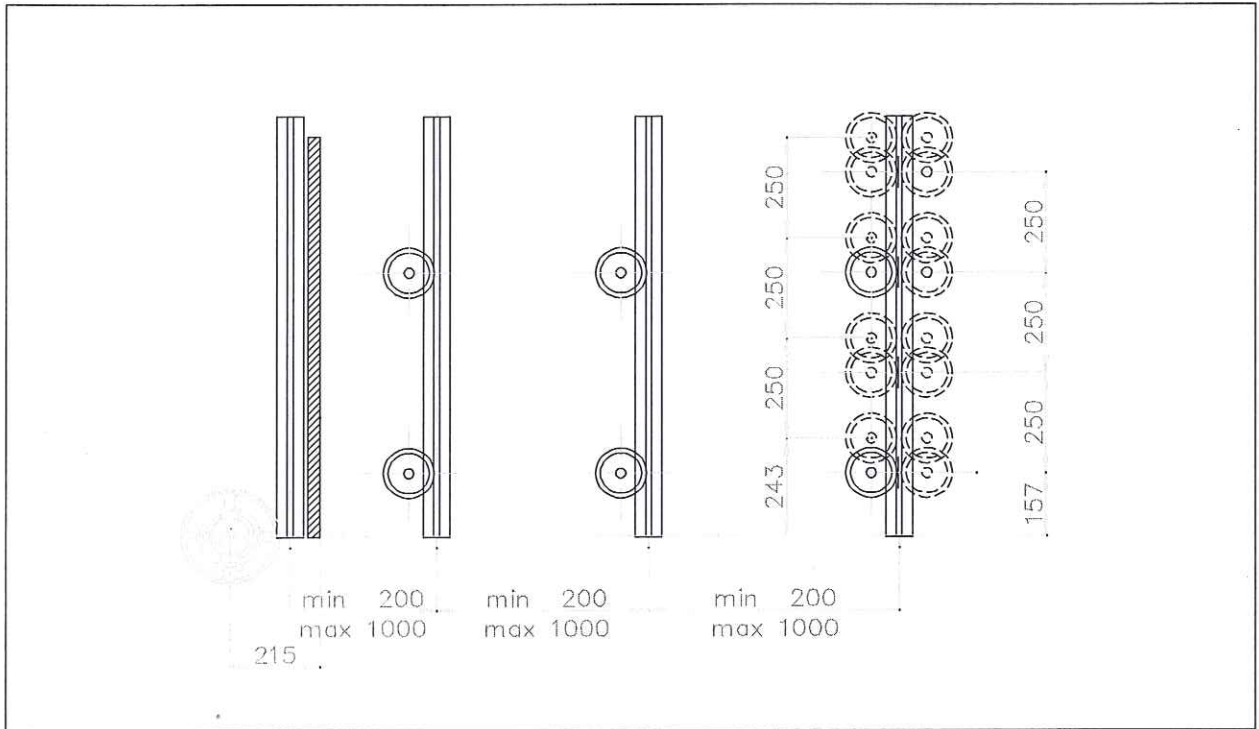
N.B.: Using the additional toolchanger (optional), the use of any angle drive head can be executed

as follows:

- Angle drive heads must be situated on supplementary tool magazine
- Angle drive heads are taken one at a time and relocated at the end of machining
- Toolchanger RAPID 10 has the sole function of exchange-shuttle.

WORKTABLE

- * 3 bars manually mobile along "X" axis
- * 6 clamps manually mobile along "Y" axis (2 for each mobile bar) for referencing through the shaft in an ALREADY FIXED POSITION (see LAYOUT) (for referencing along "Y" axis)
- * 1 retractable reference stop (at left for referencing along "X" axis)



AXIS TRAVERSE

- * axes driven by "brushless" type motors
- * ground screws and preloaded ball screw assembly
- * prismatic guideways and sliding blocks with preloaded recirculating balls
- * manual lubrication system
- * rapid traverse of "X" axis
- * rapid traverse of "Y" axis
- * rapid traverse of "Z" axis

60 m/min.
45 m/min.
30 m/min.

CNC CONTROL UNIT

- * NUM 1040 PC
- * operative system
- * coloured video
- * qwerty keyboard
- * microprocessor
- * hard disk
- * RAM memory
- * floppy disk
- * CNC program memory

Windows 95
10,5"

PENTIUM-166 Mhz
1,2 Gb
16 Mb
3,5" 1,44 Mb
128 Kb

- * ROUTOLINK operator interface

CONTROL CONSUL

- * control panel integrated in electric cabinet

PROTECTION FOR HEAD UNIT

- * guarding on mobile upright with window of plastic material to prevent impact and enable constant control of working area
- * airfoam bumpers fitted to guarding
- * transparent double layer bars placed at side of head units to afford protection during machining
- * positive action safety switch placed on each bumper prevents or blocks running of machine to protect operator from eventual impact against mobile upright

CE NORMS

Safety devices in conformity with European safety regulations (C.E. norms)

- * guarding along whole rear perimeter with entrance door for access to rear of machine
- * positive action safety switch placed on entrance door of rear screening prevents or blocks running of machine if access is made from rear
- * a manual/automatic mode selector with key enables access to machine for control operations in complete safety as axis displacement is limited to 2 m/min. by software and switching on of electro-spindles is prevented
- * pendulum machining is allowed

