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Cap.Soc. €1.500.000,00i.v. - P.I. IT 02025470242- Registro Imprese n.02025470242 - R.E.A. n.201220

NR. 1 TECHNO BH

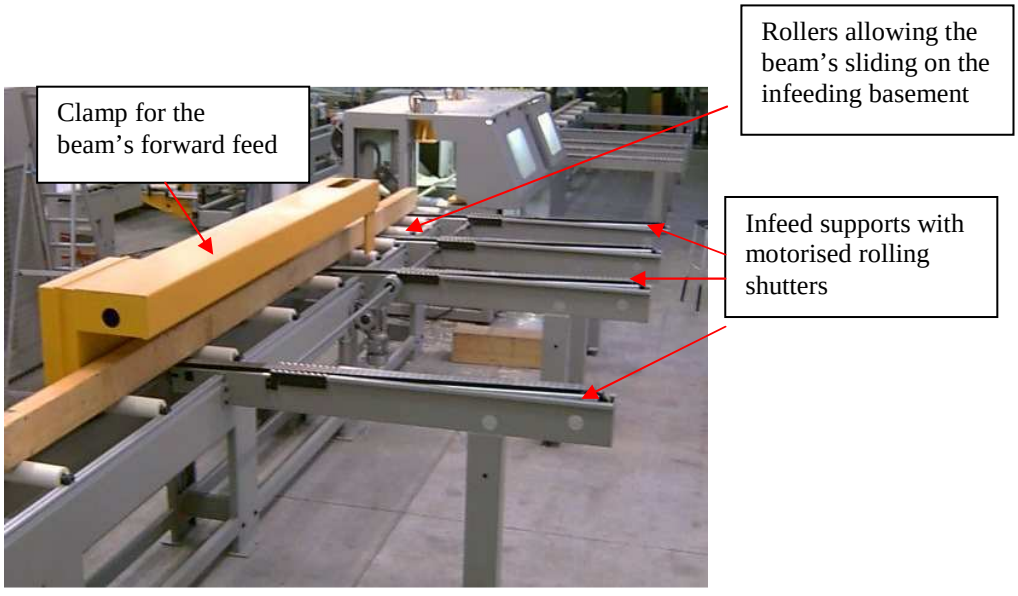
WORKING CENTRE WITH 8 AXES INTERPOLATING IN CONTINUOS TO PROCESS BLOCK HOUSES. AUTOMATIC WORKPIECE MOVEMENT.

BASIC DESCRIPTION:

The Techno Block House is a solid and completely automatic working centre.

The structure is made by a solid electro welded metallic carpentry of high resistance and stability.

The infeeding transport of the beams is automatic: a series of supports with motorised rolling shutters at the machine entrance arranged at progressive distance one from the other transport the beam onto a 9000mm long basement with sliding rollers. A special clamp managed by the numerical control and automatically adjustable according to the beam's dimension holds the beam and moves it forward and backward at a max. speed of 80 mt/1'



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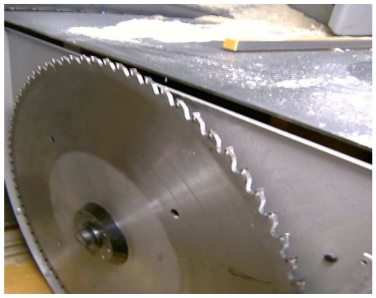
The beam is than introduced into the working area protected by anti crashing polycarbonate with safety automatic release

1) No. 1 cutting group composed by a circular blade ø 1000mm which can execute on the beam both straight cuts and inclined cuts with positive or negative angulations of 350°. The blade can also assume a simultaneous position of cutting's inclination in positive of +45°. This cutting unit is powered b y a 23 Kw at 1400 rpm/1' motor which permits to have precision and velocity



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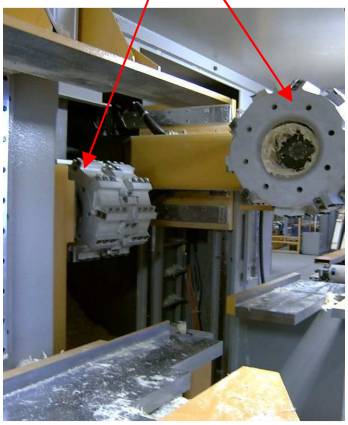
2) According to the program, the beam can than be transported to the milling station called “block house”. This station is composed by nr. 1 horizontal group and nr. 1 vertical group powered by a motor of 23 Kw at 4000 rpm each group. On these groups are mounted the BH1 and BH2 milling tools able to execute the “block house” processing. The vertical and horizontal block house groups work simultaneously with a simplified cycle, in order to reduce the idle times.

Vertical and horizontal groups with “block house “BH1 and BH2 milling tools



3) Moreover, in this unit we can also find the horizontal drilling group of 4,4 kW at 3000 rpm, with tool connection type ERG 40 and automatic positioning of the horizontal hole according to the program

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4) "Toupie" milling group of 16 Kw at 9000 rpm with automatic positioning, for the execution of the horizontal beam's frontal grooves

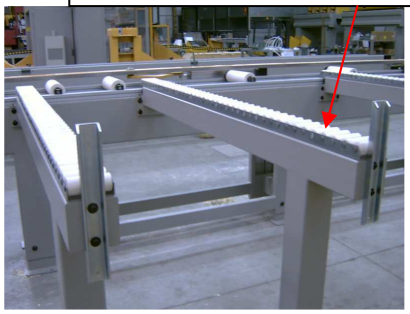
Once the process inside the working area is terminated, the processed beam is transported on the outfeeding basement 9000mm long with motorized rollers for the sliding of the beam.

Outfeeding basement with motorised rollers

Lateral supports with rollers allowing the beam's sliding

A special device "stocks" the processed beams on lateral supports with rollers allowing the beam's sliding and arranged at progressive distance one from the other

In this way it's possible to have an uninterrupted production without idle times.



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BASIC DESCRIPTION OF THE MACHINE:

THE STRUCTURE:
Electro welded structure, of high resistance and stability.

AXIS MOTORS:
Axis movement by means of brushless motors operated by inverter, maintenance free.

AXIS MOVEMENT:
The movement of the axes is by means of pinion on a hardened rack with grinded inclined teeth.

SLIDING GUIDES:
Sliding guides with preloaded recirculating roller slides with a very low friction coefficient and a very high precision, automatically lubricated.

PLANT ENGINEERING

ELECTRIC PLANT:
According to the CE norms with equipment installed in airtight cabinet complete with conditioner on its side, for allowing the air recirculation inside the cabinet itself and consequent cooling of the equipment contained in it.

All electric, electronic, pneumatic and electro-pneumatic components are first-choice products supplied by Companies having an international importance, so that the spare parts can be easily found on the various markets.

LUBRICATION SYSTEM OF THE SLIDING GUIDES:
This system provides for the automatic lubrication of all the guides, slides, ball recirculating screws, precision reducers and racks. The numerical control manages the starting of the lubricating cycles.

LUBRICATION SYSTEM OF THE PNEUMATIC DEVICES:
Through fog nozzle filter group for electrovalves, pneumatic cylinders and any other foreseen pneumatic device.

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HYDRAULIC OIL SYSTEM

of 45 kW which powers the blade motor, the Block House milling group motor, the “toupie” group motor and the possible double horizontal transversal milling group motor.

NUMERICAL CONTROL:

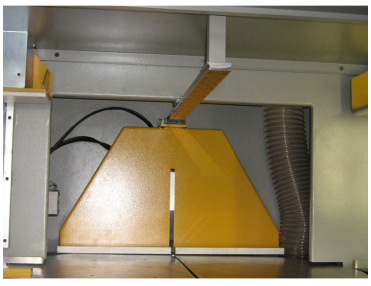
industrial numerical control. The typology and the model to be installed are decided according to the processing requirements and the machine type.

SUCTION

The working centre Techno Block House is provided with a suction system consisting of nr. 5 suction points Ø 200mm (plus nr. 1 additional suction point Ø 120mm in case of installation of the double horizontal transversal milling group Z4). The end user must provide a suction plant with suction speed of 35 m/s

CHIPS EXPULSION DEVICE

Over the blade group, inside the working area, there’s a pneumatic device with an extractor, which pushes out of the cutting area the chips generated by the cuttings made with the blade, without interrupting the working cycle.



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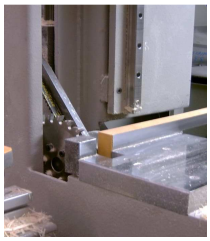
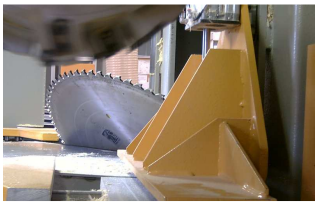
No. 1 Engraving blade (Positioned at the machine entrance, before the blade unit). It is a unit with fix position to engrave only straight cuts.

- Motor of 1,6 kW
- Blade ø 200 mm
- Rpm programming 9000/1'



No. 1 Circular blade unit:

- Motor of 23 kW
- Blade ø 1000 mm
- Programmable turns 1400 rpm
- Adjustable position 0-350°for straight cuts
- Adjustable position + 45°for inclined cuts



No. 1 Horizontal block house milling unit

- Motor of 23 kW
- Programmable turns 4000 rpm
- Installable tools diamater Max. 350x320
- Forwarding speed max 0-20 mt/1'.

No. 1 Vertical block house milling unit

- Motor of 23 kW
- Programmable turns 4000 rpm
- Installable tools diamater Max. 350x320
- Forwarding speed max 0-20 mt/1'.

No. 1 Horizontal drilling unit from 4,4 kW at 3000 rpm. Automatic positioning of the hole according to the program

No. 1 "Toupie" unit for the execution of front beam's horizontal grooves.
Automatic positioning according to the program.
Milling tool ø 250 mm, power 16 kW, turns adjustable from 9000 rpm

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No. 1 Tool kit:

- Nr. 1 circular blade ø 1000 mm.
- Nr. 1 BH1 vertical "block house" milling tool (dimension 350X160)
- Nr. 1 BH2 horizontal "block house" milling tool (dimension 350X220)
- Nr. 1 drilling tool ø 35 x 260 mm
- Nr. 1 « toupie » milling tool ø 250 x 30 mm

No. 1 Machine's infeeding conveyor composed by :

- No. 1 basement 9000mm long with sliding rollers, where the beam to be processed is positioned.
- A series of supports with motorised rolling shutters arranged at progressive distance one from the other and positioned on the side of the basement of 9000 mm at the machine entrance. The supports with rolling shutters serve as "stock" and infeed the beams one at a time onto the roller conveyor of 9000 mm. They are CNC controlled.
- Special pneumatic clamp managed by the CN, automatically adjustable according to the beam's dimension. Clamp's max speed 80 mt/1'. During the working cycle the holding of the beams is made next to the cutting unit, in order to have more precision.

No. 1 Machine's outfeeding conveyor composed by:

- Basement 9000 mm long with motorized rollers for the sliding of the beam.
- A series of supports with idle rollers positioned on the side of the basement of 9000 mm at the machine exit. They are arranged at progressive distance one from the other and "stock" the processed beams.

No. 1 Safety protections in anti crashing polycarbonate around the machine's working area in order to reduce the emission of chips, dust and noise. The protections have a safety automatic release

No. 1 Electric cabinet containing the electric and electronic devices, with the cooling unit fixed at its side.

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NUMERICAL CONTROL AND SOFTWARE

No. 1 Fix control console complete with industrial numerical control, manual commands to move the axes, buttons of START, STOP, RESET of the program and monitor of 17" TFT to supervise the machine.
PC with following features

- Windows interface
- Pentium processor
- Mamory RAM 256Mb
- Hard Disk 20 Gb
- CD reader
- USB

No.1 Graphic software Essetre BASE specific for the machining of beams and able to display on the monitor both the piece and its relevant processings in 3D. This software allows a basic workpiece programming by using some machining macros which are already pre-defined inside the program. The operator interface of the Essetre graphic software is based on Windows XP, therefore the machine operator must be able to use that operating system. On the contrary, the programming of the machine software is based on ISO language and it would be better for the operator to have already some knowledge of such programming system. Should it not be the case, we suggest you to consider a training course at NUM or at a specialized organization of your Country.

No.1 Post-processor to interface your drawing program by Dietrich's, Sema, CadWorks, or HSB.

No.1 Numerical control mod. ESA

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TECHNICAL DATA:

Nr. 8 controlled axis X1, X2, X3, Y, B, C, Z2, Z3 (nr. 9 controlled axis in case of installation of the double horizontal transversal milling group Z4)

Y-axle stroke (clamp)	mm. 8000
Y-axle speed (clamp)	mt/1' 80
B- axle stroke (blade)	°0 - 45
C- axle stroke (blade)	°350
X1-axle stroke (blade's transversal movement)	mm 250
X1- axle speed (blade's transversal movement)	mt/min 40
X2- axle stroke (block-house)	mm. 925
X2- axle speed (block-house)	mt/1' 40
Z2- axle stroke (block-house)	mm. 600
Z2- axle speed (block-house)	mt/1' 40
X3- axle stroke (block-house)	mm. 600
X3- axle speed (block-house)	mt/1' 40
Z3- axle stroke (block-house)	mm. 775
Z3- axle speed (block-house)	mt/1' 40
*Z4- axle stroke (double horizontal transversal milling group)**	*mm 300*
*Z4- axle speed (double horizontal transversal milling group)**	*mt/min 40*
Max. workable dimension	mm. 320x250
Min. workable dimension	mm. 50x50
Min. workable length	mm. 500/1000
Max. workable length with additional supports (see optional)	mm 12.000
Max. workable length with additional manual carriages (see optional)	mm 18.000
Installed power	(90Kw) Volts 400/50Hz ± 5%
Air consumption	(6 Bar) l/min 200

** option depending to the dimension of the installed block house milling tools*