

LIVRA



CN CENTRE THROUGH-FEED BORING MACHINES



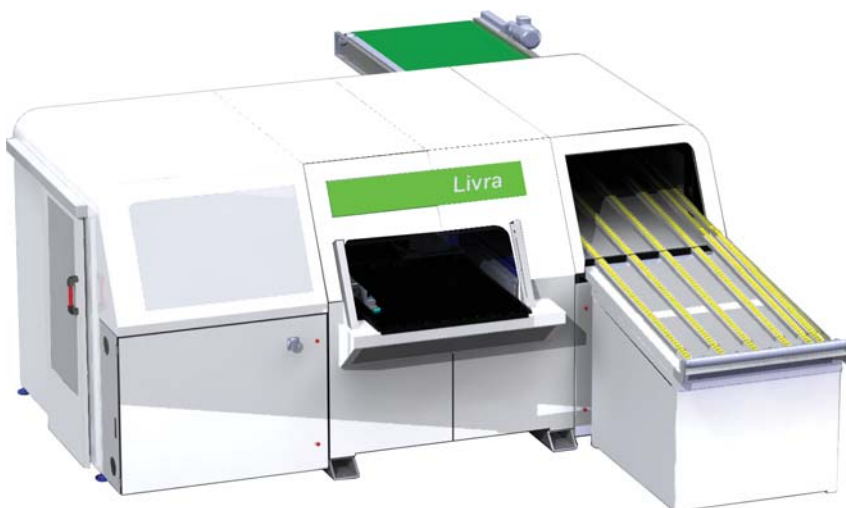
Boring machines of high performance for speed and cycles execution, its characteristics of maximum flexibility make it the best solution to work "lot 1" and have high productivity.



High productivity

Reduced time of loading and unloading; meanwhile panel processed moves backwards on the panel return device one more panel can be fed in for processing.

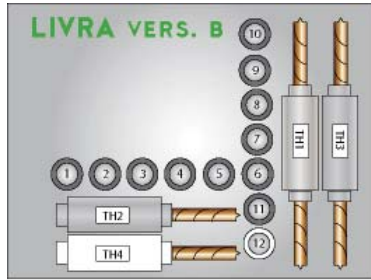
The sequence is continuous and without downtime.



LIVRA - the boring machine *with setting time equal to 1 second*

LIVRA and Productivity: Rapid, intuitive in programming, high performances and precision, fast in the working cycles, efficient in eliminating dead times during loading/unloading operations. Thanks to the drilling from the bottom there is not exigency to clean holes from wood shavings, panels after process are totally clean and with surfaces in total safety.

VERSION WITH SINGLE HEAD

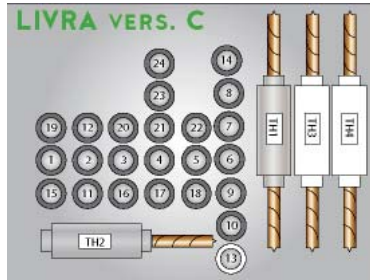


● STANDARD ○ OPTIONAL
 

N. 11 Vertical spindles

N. 1+1 Horizontal front-back spindle

N. 1 Side Horizontal spindle



● STANDARD ○ OPTIONAL
 

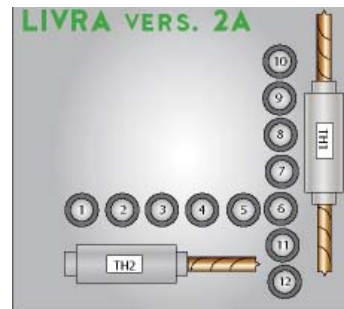
N. 23 Vertical spindles

N. 1+2 Horizontal front-back spindle

N. 1 Side Horizontal spindle



VERSION WITH DOUBLE HEAD

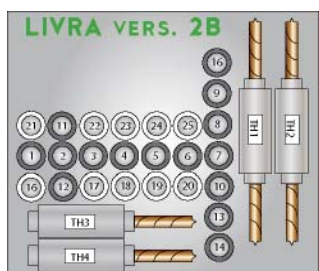


● STANDARD ○ OPTIONAL
 

N. 12 Vertical spindles

N. 1 Horizontal front-back spindle

N. 1 Side Horizontal spindle

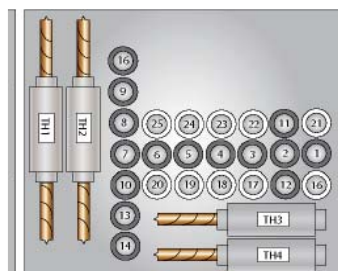


● STANDARD ○ OPTIONAL
 

N. 15 Vertical spindles

N. 2 Horizontal front-back spindle

N. 2 Side Horizontal spindle



DRILLING PRECISION

Boring head with independent spindles . The NC uses the spindles optimizing their activation according to the programming and type of holes required, with possibility of several configurations. The heads are made in "ergal" from block.

This technology gives a high stability and indeformable shape . Its compact composition eliminates all risks of air bubbles into the material, typical problems of casting materials. This standard of quality and the use of steel tempered and rectified gearings grant the absence of clearance and precision in the time.

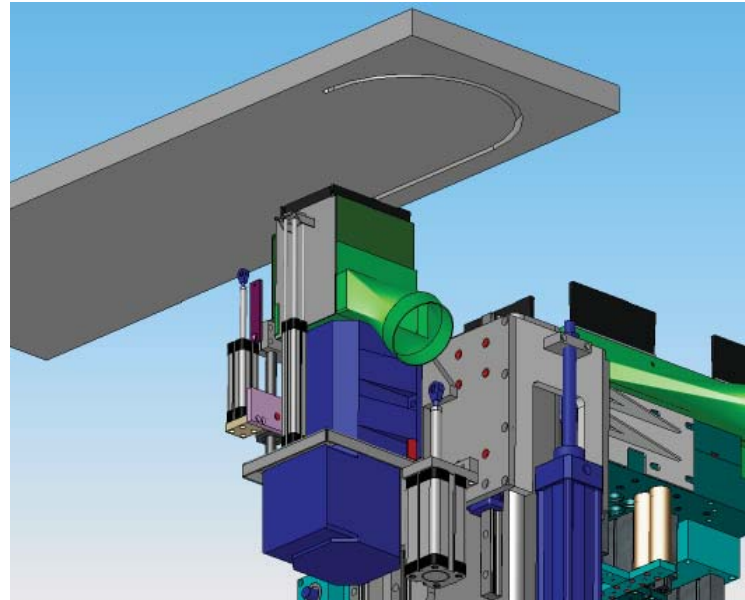
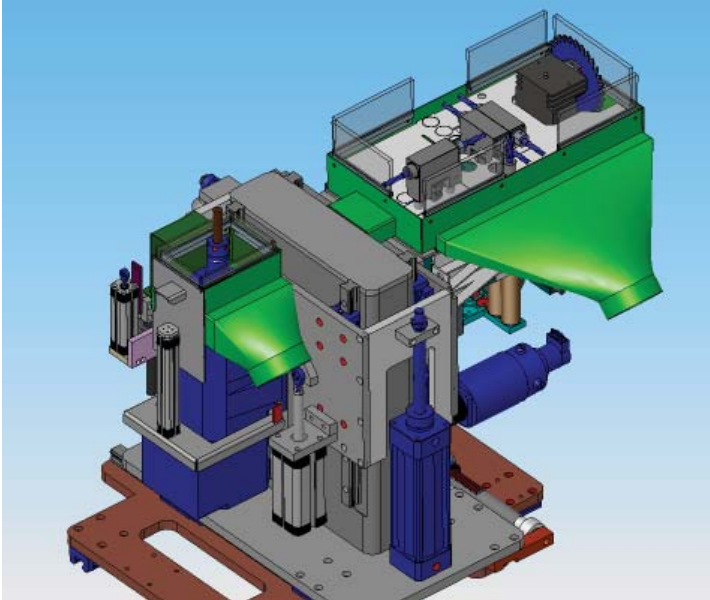


HINGE

Hinge unit with characteristics on request

DUST EXTRACTION UNIT

The boring unit (version 1 head or 2 heads) is equipped with a dust extraction system with air blowing that creates depression making the extraction more performant. As with this system the boring unit is always clean , it remains at low temperature and with absence of shavings that could damages the head seals. All this increases the efficiency of the boring unit.



Router, saw and boring head dust extraction units with an exclusive telescopic system and a hermetic seal granting the total suction of material waste.

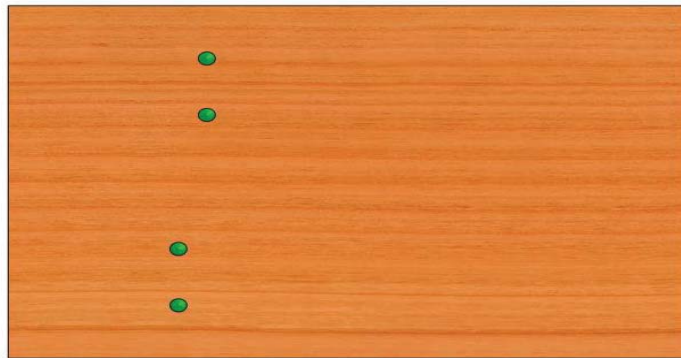
LIVRA is quality and precision in total safety: The front side of the machine is totally open but safe . The full open front side of the machine allows to easily feed in even pieces of small dimensions and control the correct positioning. The operator safety is granted by the laser barriers that block any panel process in case of wrong or careless infraction of the operator into the processing area

4° AXIS IN THE VERTICAL BORING

The fourth axis "X1" makes micro movements along axis "X". The movement has a stroke of +50/-50 mm, in this gap it is possible to execute drilling without panel movement creating a bigger productivity. It is possible to make the 3 hinge drilling without panel movement.

4° AXIS IN THE HORIZONTAL BORING

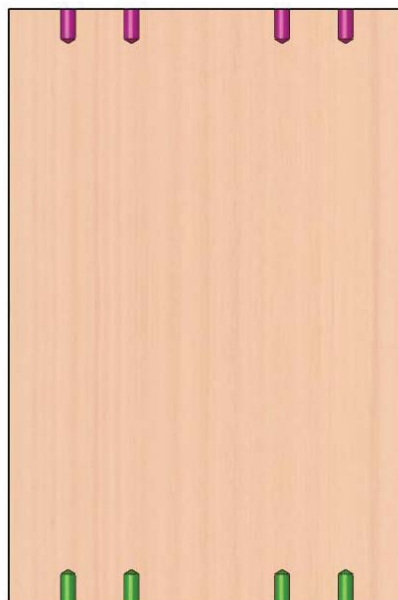
The front and rear horizontal drilling is done with panel blocked by the top pressing units. The Z axis moves head in boring position, the 4° axis X1 executes the boring as per depth programmed.



The fourth axis X1 in the version double boring head grants an important increase of productivity as it decreases the numbers of boring step compared to the boring machines that propose the top and bottom head.

Panel process. This program has only one step of drilling, because the left head with the 4° axis is independent from the right head and the machining is done at the same time.

This operation is executed in the same boring step because panel remains blocked and the right head with movement of the 4° axis X1 of 25 mm does it at the same time

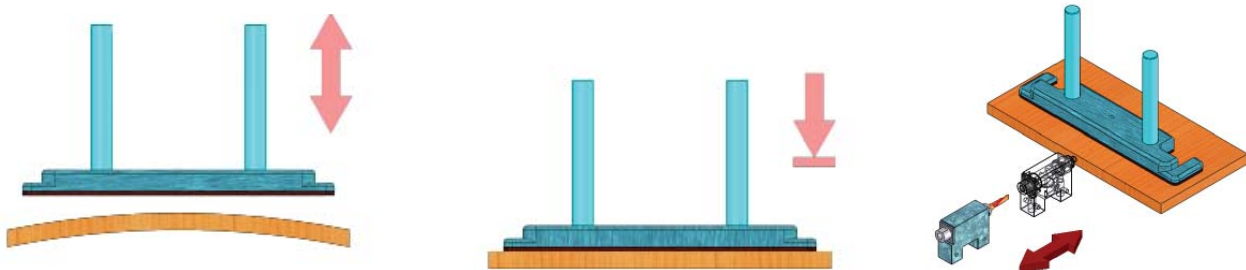


PNEUMATIC TOP PRESSING UNIT



Top pressing unit has been studied to correct all faulty-curved panels obtaining a boring of maximum precision also on panel not perfectly flat. The top pressing unit press the panel during the vertical and horizontal boring making flat also those panels that are particularly curved obtaining a perfection of depth in vertical boring as well as in the front/rear horizontal boring.

PERFECTION OF BORING WITH LIVRA WITH NC 4° AXIS AND BORING CYCLE WITH PANEL PRESSED.



The panel seizing system with full pressing unit, grant a drilling precision also in horizontal drilling with panel not totally flat.

The panel thickness irregularities are automatically brought inside the cabinet granting always a perfect external finish in the panel assembling.



PANEL EDGE READER

Models of LIVRA are equipped with standard front/rear panel edge reader by double optic fiber. This unit allows to avoid errors of panel cut by correcting automatically the cycles and giving to the cabinet a perfect assembling.

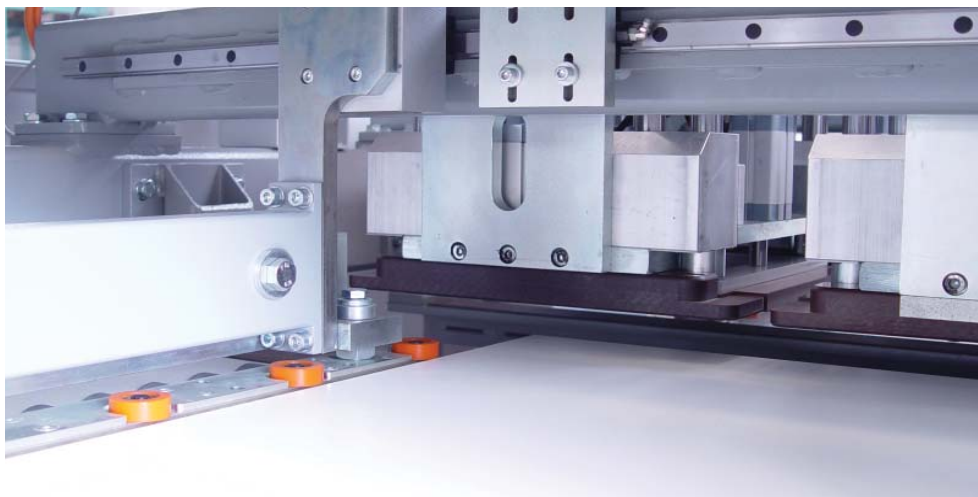
AXIS PANEL MOVEMENT BY PNEUMATIC CLAMPS

Fast and precise, the K 2's clamps for panel movement has a speed of 60 mt/1' and a stroke of 750 mm. This allows to limit the number of drawing steps, reaching excellent performances also in terms of process rapidity. The pneumatic clamps (axis X) of sturdy structure , allows a rapid and precise panel movement even in case of clamps repositioning or re-hook. The high precision is possible because panel is always held against the fence by the automatic side pusher and top pressing units all along the processing operations and clamps repositioning..



AUTOMATIC SIDE PUSHER

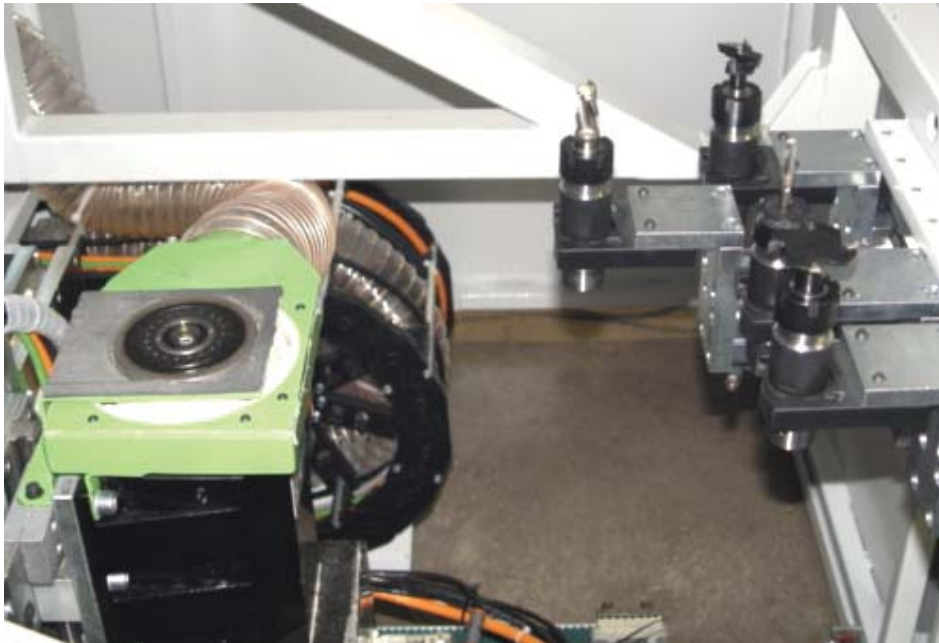
By its automatic side pusher LIVRA eliminates all panel loading errors. To facilitate the panel loading the automatic side pusher is automatically activated according to the panel dimension previously established. At the processing start by pedal, even if panel is not positioned in a correct way, the automatic side pusher moves panel against the fence and hold it with precision all along the processing operation. The automatic side pusher is made by two separate units: in and out unit. This solution is fundamental during side horizontal drilling because the rear side pusher adapt itself automatically to the different panel dimensions.



AUTOMATIC CHANGING TOOL WITH 4 STATIONS

On request n. 8 stations

The tools replacement during panel process makes the boring-milling LIVRAvery flexible, completing all types of panel process , even the most complex, in a unique passage



ENTRANCE DOOR FOR MACHINE SERVICE



5 WARRANTY YEARS

ON MECHANICAL AXES COMPONENTS

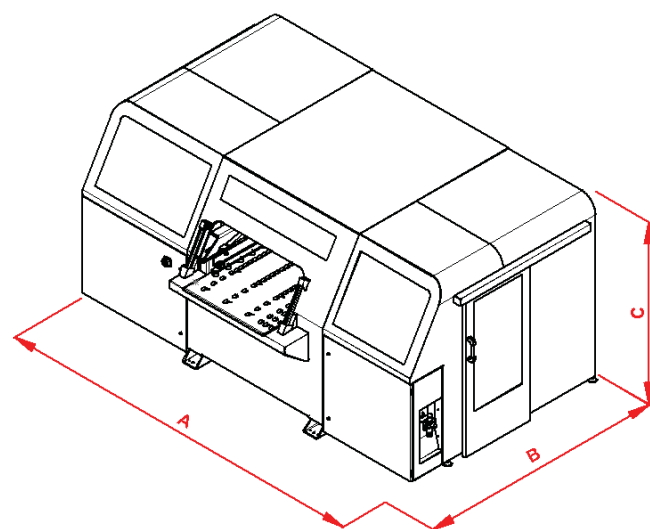
Warranty on the mechanical movement of the axes . The full warranty of 5 years on the “ system of axes movement”, for which it is not required any maintenance , certify the total reliability of precision of K2 even in the long time. The “vital” parts of the machine, system of axes movement, the systems that determine the drilling precision. The belts of movements are of high reliability, being made with strings of steel , grant a seizing on the drawing pulleys of the axes and a precision at “ zero-clearance”. This technical solution allow to distribute the strengths and the weight of movement on a higher fulcrum surface, contrary to the traditional drawing made of gearing on racks where there is a single teeth in seizing. All the remaining machine components , are granted 2 years as per international rules. The warranty is valid only if rules listed in the warranty carnet enclosed into the manual maintenance supplied with the machine are respected.

LIVRA/800 - SINGLE HEAD	
A	3411 mm
B	2326 mm
C	1698 mm

LIVRA 2/800 - DOUBLE HEAD	
A	3811 mm
B	2326 mm
C	1698 mm

LIVRA/1200 - SINGLE HEAD	
A	3811 mm
B	2326 mm
C	1698 mm

LIVRA 2/1200 - DOUBLE HEAD	
A	4211 mm
B	2326 mm
C	1698 mm



TECHNICAL DATA

	LIVRA 800	LIVRA 1200	LIVRA II 800	LIVRA II 1200
Axes Number	3 (X - Y - Z)	3 (X - Y - Z)	3 (X - Y - Z)	3 (X - Y - Z)
Max panel width	800 mm	1000 mm	1200 mm	900 mm
Boring field width	600 mm	800 mm	1000 mm	800 mm (600 mm lama-saw)
Working speed	30 m/min	30 m/min	30 m/min	30 m/min
Spindle rotation speed	3400 rpm	3400 rpm	3400 rpm	3400 rpm
Power required	2,5 Kw	2,5 Kw	2,5 Kw	2,5 Kw
Dust extraction diameter	100 mm	100 mm	100 mm	100 mm
Air pressure	6 bar	6 bar	6 bar	6 bar
Dimensions (cm)	165X163	165X192	165X210	165X210
Working table height	900 mm	900 mm	900 mm	900 mm
Rulliera ripiegabile auto-portante	opt.	opt.	opt.	opt.
Rulliera fissa per pannelli di grande dimensioni	opt.	opt.	opt.	opt.



**STANDING
INNOVATION**

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