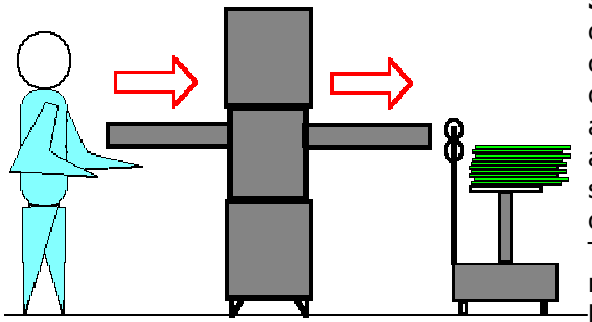
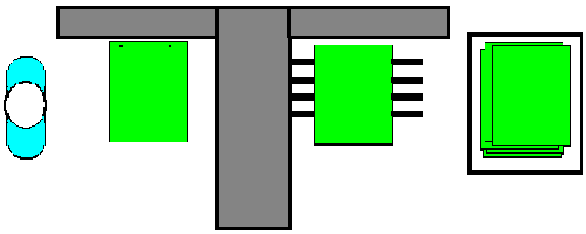
SL13.9

SL13.9 is a CNC scoring machine based on the same mechanical concept as the successful SL13.7,mantaining the same sturdy and heavy base structure.Strength is once again an essential characteristic to ensure precision and stability to the complete system.The **SL13.9**,whilst having been designed with all the advantages of simplicity and high throughput of the SL13.7,also has additional working capabilities because of improved mechanics and even easier control and programming due to a built-in standard PC.
The board is moved into and out of the machine by a belt supporting a carrying system which runs on two ground guides and ensures high precision to the movement which is under the direct control of the computer. The board can be fixed to the carrying system either by means of pin registration or edge clamping (optional) according to customer needs. The chain is powered by a DC motor with adjustable speed up to 40 metres/min. (120 ft/min) for paper-phenolic (optional) and 30 metres/min. (100 ft/min) for FR4 material.
The **SL13.9** is equipped with one scoring line which scores a V-cut in both sides of the board at the same time.The two diamond cutter blades with 24 teeth (standard) are installed directly onto the motor shafts with no reduction gears or belts,therefore keeping required maintenance to a minimum.
Thanks to an improved mechanics,the **SL13.9** allows the execution of interrupted cuts with 20 jumps for each one of the 200 lines available per panel.In addition,each line portion can be scored at a different controlled depth.It is important to emphasise that the "jump" movement is not obtained by the same mechanical system as that which controls the cutting depth.device.
In fact,while the control of the cutting depth must be very accurate and precise,the "jump" sequence needs only to be quick enough so as not to influence the total productivity of the machine.In this way,the accuracy of the machine can be mantained even after several thousands of jumps.At the same time the productivity of the machine remains virtually unaffected.



SL13.9 is equipped with an automatic off-loader as standard.Once all the V-cuts have been made in one direction,the board is taken automatically to the rear of the machine and off-loaded.As an optional extra,a self-levelling stacker can be linked to the off-loader.
The standard method of loading the machine is manual but an automatic loading system working with either pins or edge location can be fitted as an optional extra.

In the case of pins registration,the board requires two tooling holes for each direction. If the edge registration is supplied,the boards are clamped by the carriers and taken into the cutting area. As soon as the board has been removed from the pins or clamps by the off-loader,it is carried to the stacker while the carriers return to the front of the machine and another board is loaded.



The **SL13.9**,it is extremely safe to use.There is no need for security doors or switches which would slow down the productivity of the system.
Traditional time consuming operations such as changing blades and internal cleaning are simple with the **SL13.9**.The block holding the two motors and cutter blades can be completely removed from the machine by sliding it off the ground guides.The blades then become easily accessible for changing.The complete operation takes only a few minutes after which the block is reinserted on the guides without the need for a re-calibration procedure.
Particular consideration has been given to the design of the dust extraction system which is typically one of the problem areas of such machines. In the **SL13.9**,the blades are totally enclosed during the cutting operation.Special nylon brushes which avoid possible scratching of the board form the enclosure.In consequence,the result is an almost total removal of the sawdust ensuring the unloading from the machine of a perfectly clean board.
A fully standard PC equipped with colour monitor,a 31/2 inch floppy disk and an Hard Disk have been installed on the **SL13.9** to give the operator a better control of the system and to make the programming of the machine extremely simple.It also renders it capable of being connected to the most popular LAN (Option).

The editing of the scoring programmes,even the more complicated ones,are extremely simple by the adoption of graphic presentations,that lead the operator to enter correspondent values in the proper places.
Thousands of scoring programs can be stored in the HD,labelled with an alphanumeric name of up to 30 characters.For each program,it is also possible to save a brief description of up to 180 characters.Scoring programs can also be saved to floppy disk for exporting to other systems,or loaded from floppy disks.
A separate software package (optional) is also available to create or edit scoring programs on an external computer to avoid stopping **SL13.9** for programming.
By the adoption of the proper hardware card (optional),**SL13.9** can be connected to the most popular LAN for a direct files transfer from/to DNC.

A "built-in" self-diagnosis feature helps the operator in case of break downs or system failures.

Other available models

SL 13.9A *: same as the SL 13.9 but equipped with a special device for the handling of thin material.*
SL 13.10 *: same as the SL 13.9 but equipped with a clamping device to allow the scoring of panels without tooling holes.*
SL 13.9B *: same as the SL 13.9 but equipped with a special device for cutting metal board (aluminum).*

TECHNICAL CHARACTERISTIC	
Maximum working width	*650 mm*
Tolerance in parallelism	*+/- 0.025 mm*
Tolerance of cut position	*+/-0.025 mm*
Minimum distance between cuts	*0*
Tolerance of cutting depth	*+/- 0.05 mm*
Max Cutting speed	*40 m/min*
Machinable material	*phenolic,epoxy based*
Acceptable PCB thickness	*0.6-2.4 mm*
Vacuum requirement	*450 m3/h*
Overall dimensions	*2150x1350x1600 mm*
Weight	*600 kg*
Power consumption	*3 Kw*