



# Calibrating Sanding Brushing

New range of highly customizable machines to improve the flexibility of the Wood Industries



**COSTA**  
LEVIGATRICI

WOOD

S & K

EN

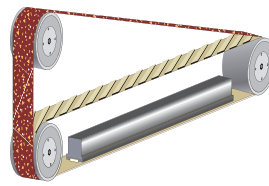
Main working units



Planer head (W1)



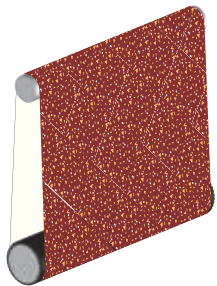
extractable Planer head (W1-E)



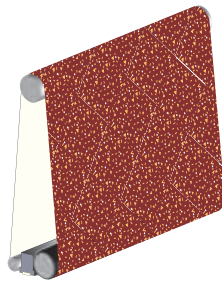
3 pulleys Cross belt (Xi)



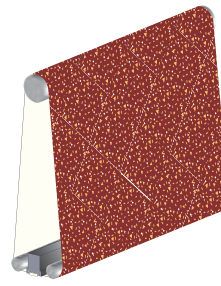
4 pulleys Cross belt (X7)  
(only for outside positions)



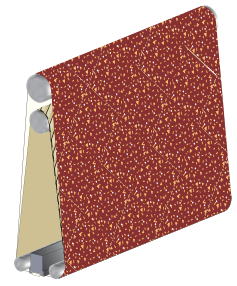
Cylinder (C)



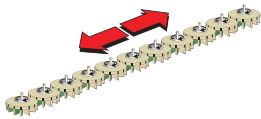
Combi (U)



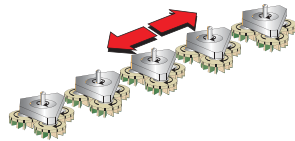
Pad (T)



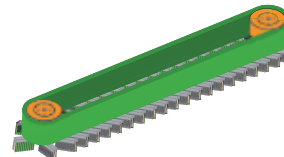
Superfinish (Tsf)



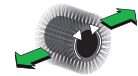
Vertical oscillating  
brushes (V)



Orbital multi-brushes  
(R)



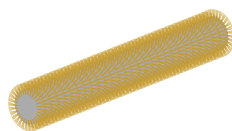
Bilateral Brush-Sanding unit  
(L)



Horizontal Brush unit with  
Cross Oscillation Ø 250mm (H)



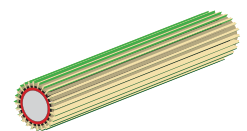
Scotch Brite™  
Ø 180 / 250 mm



Steel  
Ø 250 mm



Brush (G)  
Anderlon / Tynex  
Ø 250 mm



with abrasive inserts  
Ø 250 / 330 / 400 mm

Panel Cleaning Units in rear of machine



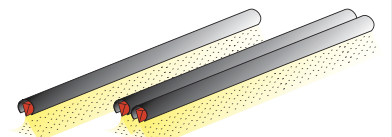
Brush Ø 180mm (S18)



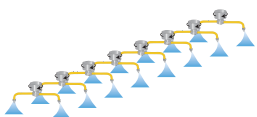
Brush Ø 250mm (S25)



Extractable brush  
Ø 180 / 250mm (SE18 / SE25)



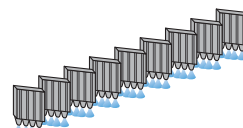
Single & Double Antistatic bars  
(Z1/2)



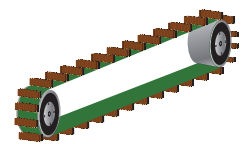
Rotary blowers (JR)



Rotary blowers  
with lateral oscillation (JRO)

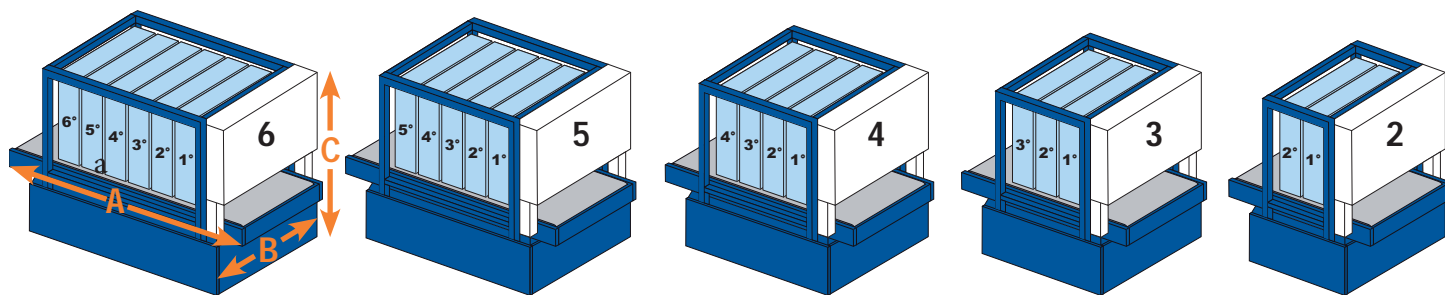


Electronic controlled blowers  
with 40 sections (SE40)



Ultra-fine antistatic  
cleaning brush (SX)

## From 2 up-to 6 main internal working units



internal working units [n°]

6

5

4

3

2

dimensions [mm]

A

3810

B

2032 (2238 for versions with R / V / XI units)

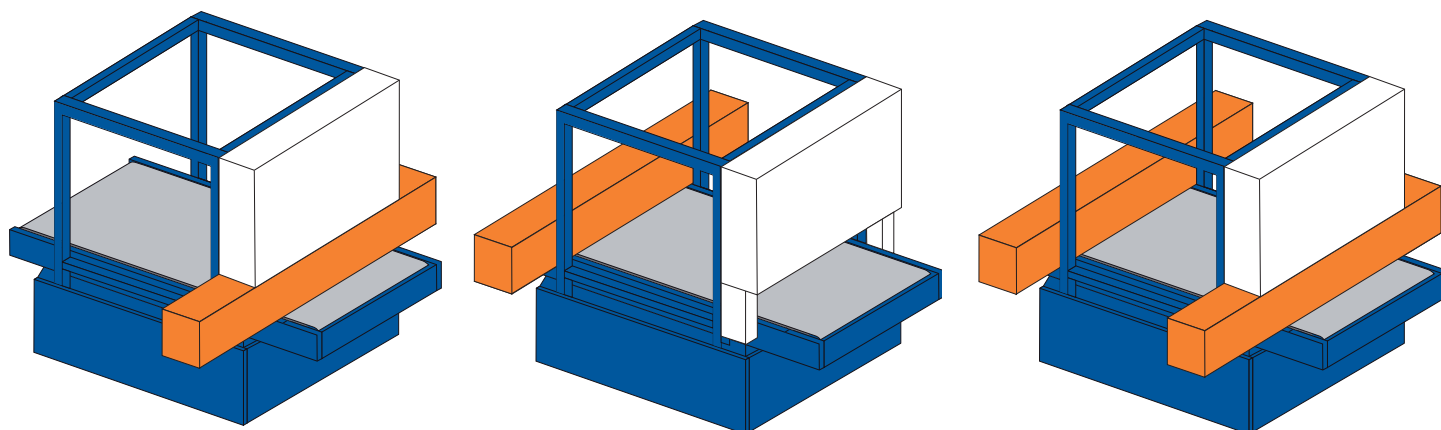
C

2250 ÷ 2410



model S6 C T Tsf G V R

## 4 Pulleys cross belt positions: in front and/or rear, all outside the structure







## Rigid structure

**S SERIES** with main motors positioned inside the frame.

**K SERIES** with motors positioned outside (when their dimensions exceed the pitch of the working units).

- Sanding belts tensioning system with large diameter rollers, heavy-duty chromium coated piston, automatic system for compensation of conicity of belts.
- Working units adjustable right-left sides to reset parallelism.
- Automatic centering of feed belt.
- Heavy-duty lifting columns of thickness adjustment.
- Main motor (max 30 kW) with pneumatic disk brakes.



Pneumatic disk brakes to stop the working units within seconds from emergency.



Sanding belt oscillation system with electronic dual-photocell. Safety micro-switch to stop the machine in case of breakage of the abrasive belt .



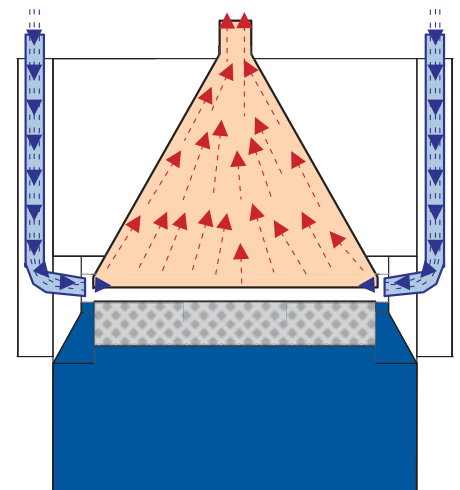
AUTOSSET (optional) - automatic thickness measuring of workpieces.

## Air Return System (optional)

The air return system assure the best dust flow in the position where is most needed for the recycled air coming from the filter; possible to fit sound protection doors (optional) to bring down the noise coming from the machine process.

Air return is important in cold countries as we can re-circulate in the machine warm air coming from the dust-filter.

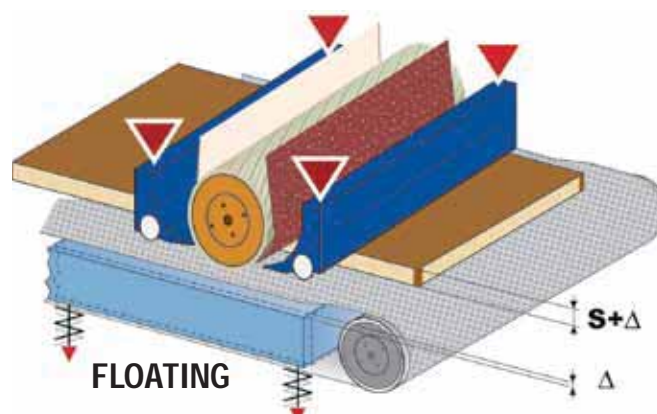
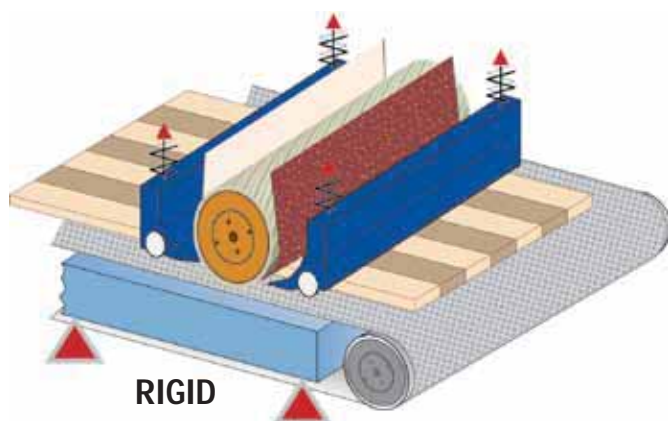
The return factor is in the range of 70% of the volume taken from the machine



- Rubber feed belts with 3 layers of cloth without joint.
- Vacuum intakes positioned under the working units to concentrate the vacuum pull only where needed.
- T1 (260 Brinell) Steel feed-table with fine grinded surface to prevent internal wearing of the feed belt.
- Large driven traction roller for wide contact area, rubber covered to increase the capacity of traction and avoid sliding (that can deteriorate the feed belt).
- Feed speed variation controlled by inverter from 3 to 20 m/min



## FEED TABLE : Rigid or Floating (optional)

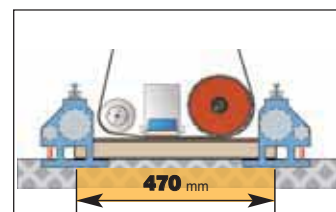
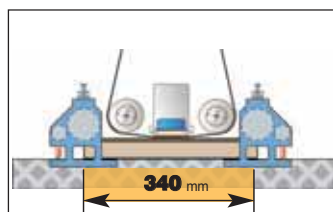
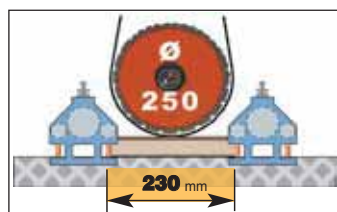
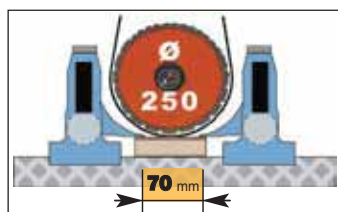
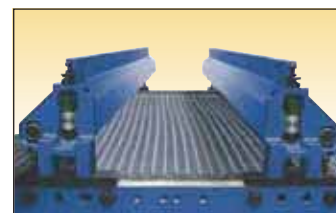
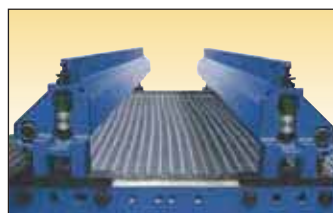
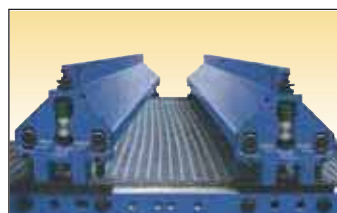


In **calibrating mode** the feed table must be rigid to assure a high level of thickness tolerance of the processed workpieces, while the pressure units are free to float.

In **veneer/lacquer sanding operation** the pressure units are set rigid and the feed table works in a floating mode. Setting operations of feed table and pressure units are automatically made by a quick set device.

## PRESSURE units

The safe traction of the work-pieces is determined by the rigidity of the pressure units, rigid or flexible depending on mode of utilization (calibrating or fine veneer-lacquer sanding).







W180-8 has a diameter of 180 mm with 8 rows of tips, set helicoidally and with inclined cutting edge in order to have a smooth impact; the carbide inserts (504 pcs.) are 14 x 14 x 2 mm

Many the advantages in processing of solid wood panels with W180:

- high amount of removal, up to 2 mm normal (or up to 5 mm when needed) impossible with sanding belts
- low motor power 22 kW
- low cost of tools;- in comparison to sanding belts in the same operations and conditions the planer has a ration of 1 to 10;
- high level of surface finish;- the first sanding belt after the planer starts with grit 100 / 120, the second can finish with grit 150;
- very low sanding belt wear (only utilized for finishing);
- good thickness tolerance of panels processed with 1 planer and 2 belt units = +/- 0,1 mm.

Quick & easy system of inspection and servicing of the planer unit W180, with a complete opening of the front side of the machine, the electric console and the control panel being the "door".



## Sectioned pressure beams

Infeed sectioned pressure shoe with pneumatic control, sections pitch 65 mm. (View of working unit without protection covers)



## W-Set

W-set pneumatic for easy on-off setting of the W180 unit from its working position, from the main panel.

## Extractable Planer Head (W1E) in conjunction with B+T line

The planer head W180-E is complete with trolley to carry the planer head, with a new semi-automatic system to take the heads in or out.

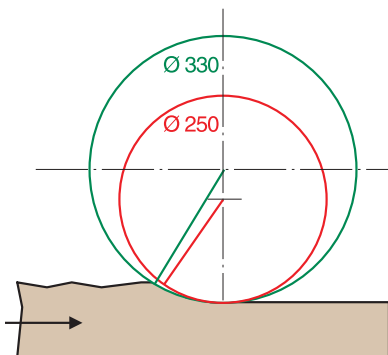


# CYLINDER units (C25 / C33)

Rubber covered or steel cylinders (depending on utilization) at same cost.

The rubber hardness determines the level of adaptation of the sanding action of the cylinder on the panel surface.

- A **soft** rubber covered cylinder has more adaptability to the unevenness of the surface therefore is preferred for veneer-lacquer sanding operations.
- A **hard** rubber cylinder has less or no adaptability to the surface (thus better for calibrating operations).



For calibrating a smaller diameter cylinder is more aggressive, the angle of contact is more open with less friction for same removal.

## Grit-Set

### Pneumatic

To position by pre-set steps the working level of the cylinder unit. Exclusion of cylinder in emergency (stand-by)



### Electronic (optional)

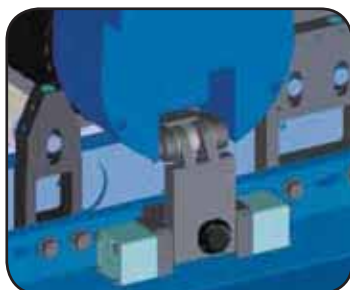
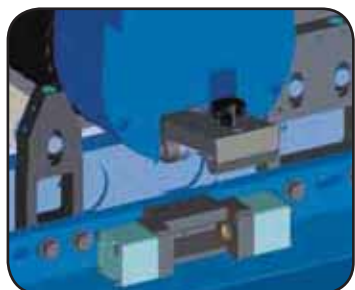
Centesimal positioning of the working level of the cylinder unit. Exclusion of cylinder in emergency (stand-by)



## Automatic locking of working unit (optional on each longitudinal working units)

Automatic - pneumatic system for locking the support of the working units to the machine frame.

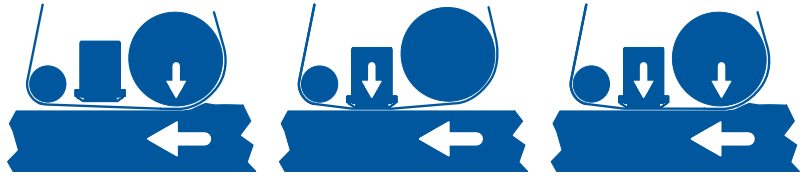
This operator-friendly device helps lowering the sanding belt change time, assuring an absolutely safe locking, improving the overall efficiency.







Multifunctional unit to calibrate and fine-sand with the utilization of one or the other of the two units (or both at same time)



## UCK

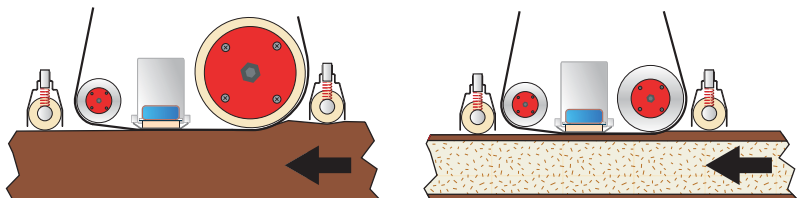
Combi unit cylinder + pad - a multifunctional unit to calibrate and fine-sand

- Cilinder rubber covered Ø 200 mm, with a fine positioning system, with electronic grit-set (opt) or with pneumatic control in-out (standard)
- T1 pneumatic pad unit standard, or (opt) electronic controlled sectioned pad CA32 with pitch of sections 32 mm or CA16 with pitch of sections 16 mm, utilized for finishing sanding operations.

## UTK

combi unit cylinder + pad, is a unit to fine-sand with the possibility of light calibrating operations

- Cylinder steel Ø 120 mm, with pneumatic positioning system IN-OUT (standard)
- T1 pneumatic pad unit standard, or (opt) electronic controlled sectioned pad CA32 with pitch of sections 32 mm or CA16 with pitch of sections 16 mm, utilized for finishing sanding operations.



### Pressure beams

Pressure units, with central roller adjustable up-down, with "lips" in entrance of the combi working units (and in each longitudinal working units).



# CROSS-BELT units (X7 / Xi)

The cross belt unit is standard equipped with the electronic controlled sectioned pads CAR32 with 42 sections/1350 pitch 32 mm (opt. CAR16 - 84 sections/1350 pitch 16 mm).

## 4 pulleys Cross belt (X7) (positioned outside the frame)

Sanding belt length 7350 x 150 mm wide  
Lamellar belt length 5510 x 150 mm wide



In this type of cross belt unit, the Sanding and the Lamellar belts are running at different speed to improve the quality of surface finish, especially indicated for high-gloss processing.



### Sanding belt air jet blowers

Standard air jet blowers positioned right beside the dust-hood intake of the cross belt unit.

A lamellar jet blower is available (optional), as well as a double set of blowers (one in each side of the cross belt unit).



## 3 pulleys Cross belt (Xi) (each position inside the frame)

The Sanding belt and the Lamellar belt are running at same speed, for cross grain or white-wood and lacquer surface finishing.



Sanding belt length 5450 x 150 mm wide  
Lamellar belt length 4500 x 150 mm wide

## Pneumatic PAD

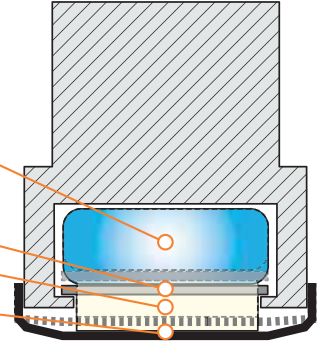
The pneumatic pad units press on a steel + felt + graphite contact elements in contact with the back side of the sanding belts and on-to the panel surfaces. These pads utilize a wide air-chamber with variable pressure.

Pneumatic chamber (variable pressure)

Steel blade

Felt or other elements

Graphite cloth



## Electronic Sectioned PAD (optional)

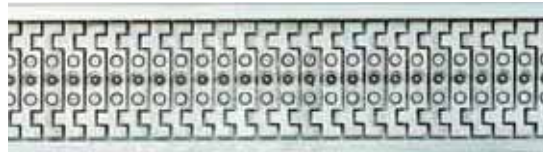
A very effective and reliable system with a bronze cartridge, containing the stainless steel piston, thus totally unaffected by rust, with a stroke up to 2 mm (the real limit being the actual sanding belt flexibility).

The pneumatic system can provide a contact pressure variable from 0 to 6 kg/cm<sup>2</sup> for each section; the value applied is set by our PC program, depending on sanding belt grit and type of finish required.



### Definition Barrier (DB)

to detect size and form of panels to process with sectioned pads



### Contact actuators (CA16)

pitch of 16 mm between sections



### Contact actuators (CA32)

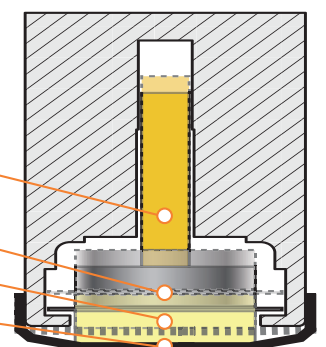
pitch of 32 mm between sections

Piston

Steel blade

Felt or other elements

Graphite cloth





# SUPERFINISH pad unit (Tsf)

A very important unit for the staining-lacquering process, thank to the homogeneous sanding, eliminating all variation of finish quality (thus equalizing the absorption of stain-lacquers on the surfaces sanded with this unit).

The lamellar felt belt has a length of 2120 mm and gives further advantages:

- the air flow between the felt stripes of the lamellar belt cools the abrasive belt;
- it is possible to utilise pads wider than normal;
- utilizing lamellar belts with different ratio full/empty of the lamellas, it is possible to diversify the finishing of the surface;
- thanks to the independency of the tensioning and tracking systems, in case of necessity we can take out the lamellar belt and work with the sanding belt only.



**Separate dust hood**  
for sanding belt cleaning blowers

**Oscillating Sanding belts  
cleaning system with timed-entry  
high efficiency jets**  
(optional on each longitudinal working units)

The air jet blowers may be installed on the lower side, near the dust extraction hood, to reduce the air extraction volume; suggested for light sanding purposes.



Belts tension system independent one another  
(to be able to work also without the lamellar belt,  
only with a standard sanding belt)

Pneumatic control are positioned in the sanding  
belt insertion side.



Quick - easy change of graphite cloth and inspection of the felt-rubber and of the steel blade inserts





## Interchangeable Brush Unit



can be equipped with motors from: 1,5 - 2,2 - 4 - 5,5 kW, that can be fitted with inverters for rotational speed variation. Each brushing unit is equipped with an independent thickness positioning system (to compensate for wear) and with a quick exclusion device in emergency.

The brushes can be:

- vegetal fibers for the dust removal;
- scotch-brite™ for finishing on veneer and lacquers;
- steel or tynex for structuring.



The Scotch-brite™ brush has a structure of non-woven synthetic fibres impregnated with abrasive grain of aluminium oxide or silicon carbide, the rollers are available in variable grit (80 ÷ 1000) and various density.



## Heavy-duty brush unit Ø 250 mm (G)

To increase the feed speed we can have bigger motors on the brush units starting from 7,5 to 11 / 15 / 22 kW each unit.

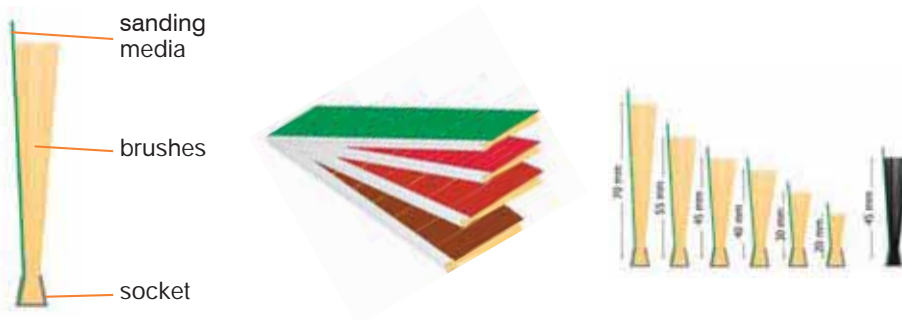
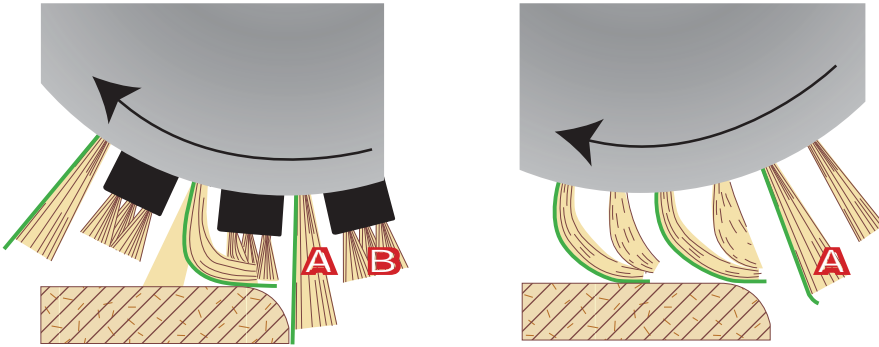
We can supply steel brushes at different density, and/or tynex brushes, and/or finishing brushes with softer material to eliminate fuzz.

Motorized height adjustment of the brush unit, with electronic control of the height quota and centesimal read-out on the control panel.

# ... with abrasive inserts units Ø 250 mm (F)

The brushes with interchangeable inserts (of various types and brands) are an industrial solution to the effective elimination of fuzz and raised fiber before and during the finishing operations.

This wide adaptability is given by the possibility to insert sanding strips with different abrasive paper grit-hardness (A) in the same roller (ex. 120 + 220 + 260), with the ability to change the back supports (B) also with different flexibility to increase or lower the brushing action on the work pieces.



The F brush can be equipped with spring-loaded pressure rollers (optional) with tilting of the pieces that guarantee a seal optimal in all working conditions.







The working unit R is completely extractable, easy to maintain and to change the brushes; require standard brushes, that have a low buying cost, or specific for special operations.

This working unit can be inserted inside the structure, the number varying depending on the feed speed required.

The orbital brushes rotate on their axe and at same time they rotate in number of three, therefore their path intersect, covering all the working surface, increasing of up to 3 times the brushing effect. Also the corner brushing improves by three times.

To consider also the overall dimensions of the unit that allows the passage of short work-pieces between the front and rear pressure rollers only 385 mm away between them.





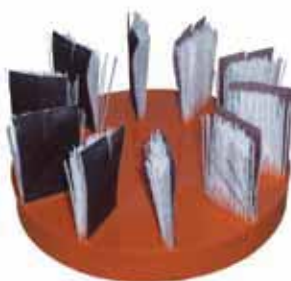
# VERTICAL oscillating brushes (V)

Vertical brushes with cross oscillation (adjustable in frequency) equipped with interchangeable brush-sanding elements.

The V unit is completely extractable, for quick and easy change of the brush tools (quick-lock system for rapid change of tools).

The V unit utilizes readily available, low-cost, brushes as well as more specific brush tools with different materials and diameters for special utilization.

These units can be assembled in any position inside our machines-frames, in variable number, depending on the required feed speed.



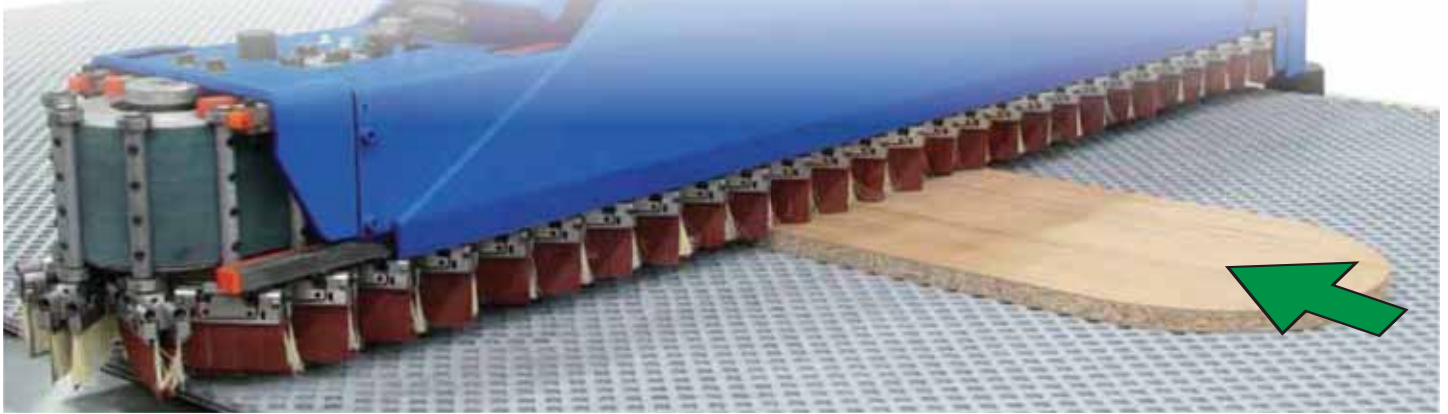
## Bilateral Brush-Sanding for rounding the edges (Patented) (L)

The unit L is our system for bilateral brush-sanding, is utilized in our machines to:

- complete cross sanding in recesses and edges;
- break the sharpness of edges (lacquer);
- help to remove fuzz from edges and surface.

L is equipped with:

- micrometrical setting of the working pre-load;
- motor power 2,2 kW controlled by inverter for variation of brushing speed range from 1 to 8 m/s;
- two dust hood collectors for proper cleaning of elements;
- quick change of abrasive inserts



## Horizontal Brush units with Cross Oscillation (Patented) (H)

Brush unit available with:

- variable length and speed of stroke PC controlled in relation to width and feed speed of work-pieces;
- steel, anderson / tynex, interchangeable inserts for finishing (Ø 250 x 250 mm of length);
- brushless motor 2,5 kW.



## Side Vertical Brush units (for doors / windows) (2VSE)

The Side Vertical Brushing system is positioned in a horizontal slide at the machine entry and consist of 2 opposed vertical units 2VSE.

Each unit is equipped with a vertical brush with abrasive inserts diam. 250 mm and a vertical height of 200 mm (160 useful working height), with vertical oscillation.

A vertical driven feed roller rubber covered is operating against the opposite unit and help feeding the work-pieces into the machine.

Bottom idle rollers are set at same height of the feed belt of the machine.

Drive motor of the vertical brush 0,75 kW + inverter (x 2)

Drive motor of the feed roller vertical 0,55 kW (x 2)

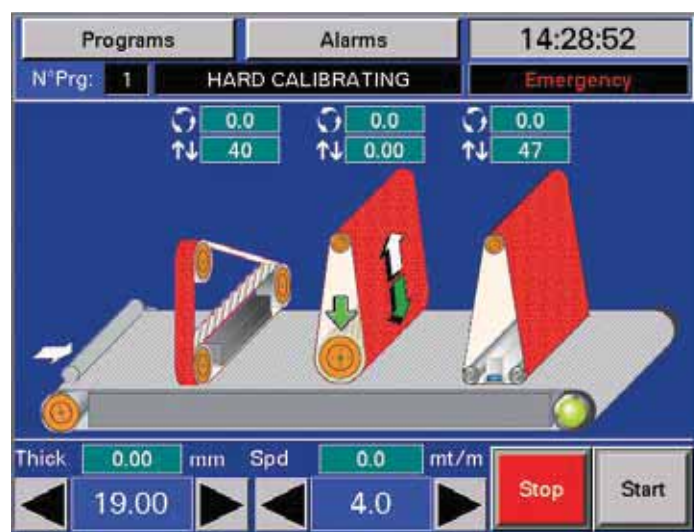
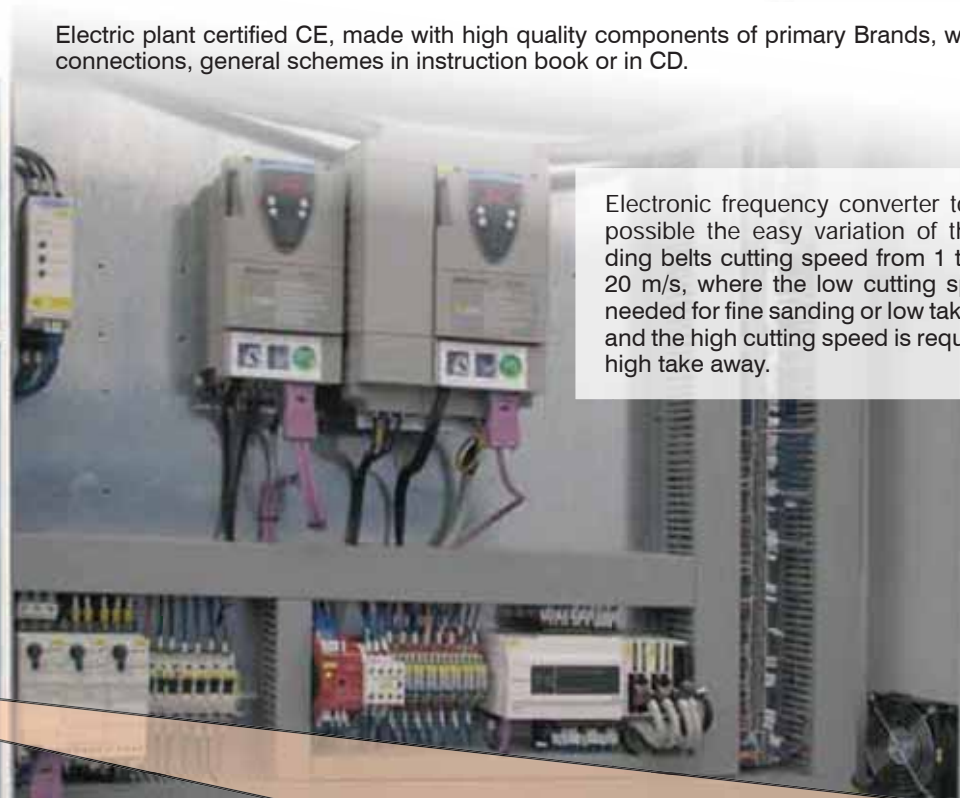
The two Side units can be adjusted in width with a manual or (opt.) motorized setting, or they can be totally off-set leaving the full working width of the machines free.





Electric plant certified CE, made with high quality components of primary Brands, with coded connections, general schemes in instruction book or in CD.

Electronic frequency converter to make possible the easy variation of the sanding belts cutting speed from 1 to 16 or 20 m/s, where the low cutting speed is needed for fine sanding or low take away, and the high cutting speed is required for high take away.



The PLC panel VISION enable the visualization in a colour touch-screen monitor of the actual setup data and operation of the machine, and to store many complete working programmes.



Push-buttons control panel (optional) with leds to signal eventual emergencies. This panel is reducing the machine price, and is mainly utilized in machines equipped only with cylinder units.





**Extractable brushes (SE18 / SE25)  
Fixed brushes (S18 / S25)  
diameter: 180 - 250 [mm]**

SE18 - SE25 unit can be equipped with motors from: 1,5 - 2,2 - 4 - 5,5 kW, that can be fitted with inverters for rotational speed variation.

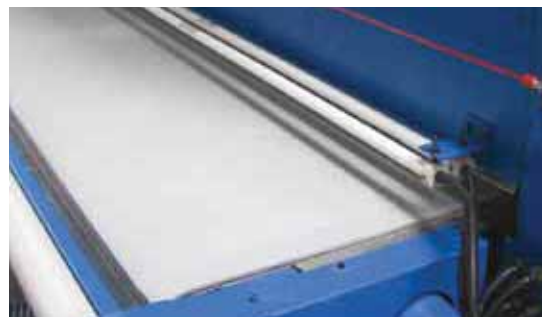
The brushes can be:

- vegetal fibers for the dust removal;
- scotch-brite™ for veneer and lacquers finishing;
- with interchangeable inserts for the elimination of wood fibres;
- steel or tynex for structuring.



**Single & Double Antistatic bars  
(Z1 / Z2)**

Antistatic bars help lowering the static electricity from the panels.



**Rotary blower  
(JR / JR2)**

The rotary blowers are helpful for removing very fine dust from the surfaces and sides of the panels. The new version of rotary blower has an oscillation system that are fitted with special nozzles that can blow away the dust from inside





**blowers (JRO)**

helping to blow away the surface as well as from the

blowers with lateral jet blowers with lateral jet blowers to blow away more effectively the holes of the panels.



**Ultra-fine antistatic cleaning brush (SX)**

Brush complete with integrated micro-moistening, self-cleaning mechanism (compressed air nozzles, roto-rack), motor with inverter



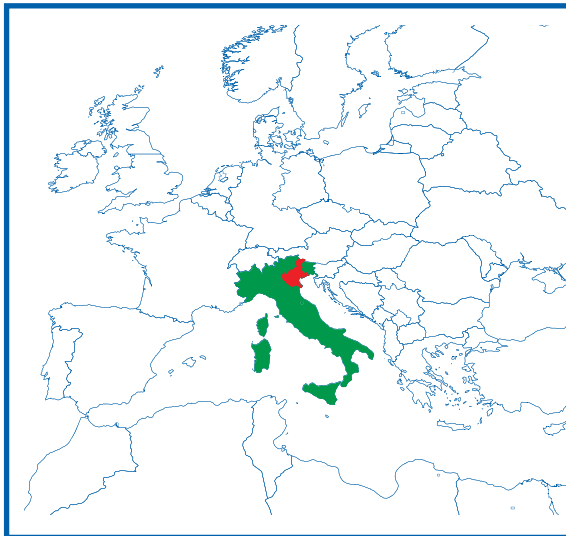
**Electronic controlled blowers with 40 sections (J40-EL)**

Special high-pressure jet blowers with electronic control for the activation of the nozzles only in correspondence of the holes.





# Location - Italy - Veneto



## Airports

Venezia: 90 Km - 1h drive  
 Treviso: 75 Km - 1,5 h drive  
 Verona: 65 Km - 45 min drive  
 Bologna: 160 Km - 2h drive

## Train Station

Vicenza: 30 km - 30 min drive

## Car Directions

To the Factories in Sandrigo  
 Highway A31 - Exit Dueville - 3,5 km

To the Main Office in Schio  
 Highway A31 - Exit Thiene-Schio - 13 Km



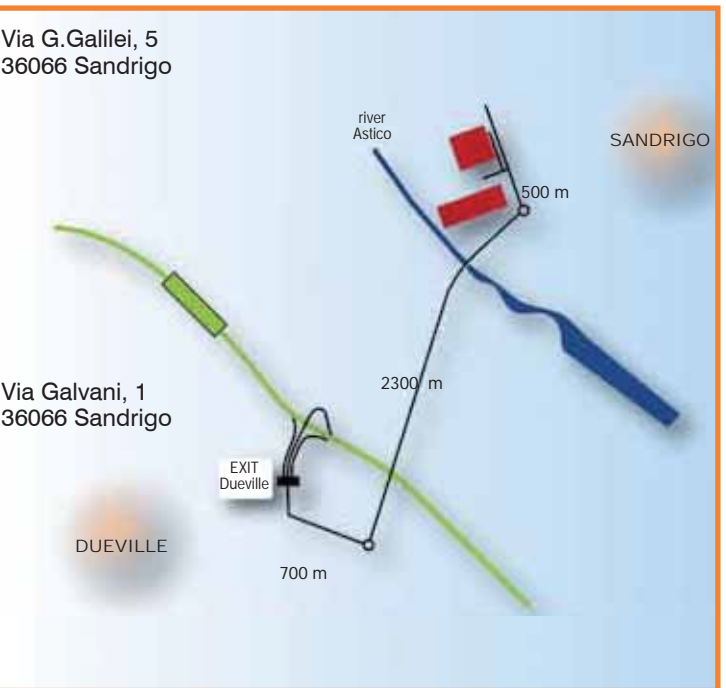
Headquarter of Schio

Via Venezia, 144  
 36015 Schio



Factory of Sandrigo 2

Via G.Galilei, 5  
 36066 Sandrigo



Factory of Sandrigo 3

Via Galvani, 1  
 36066 Sandrigo

We reserve the right to change features without any notice



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