PRIMA 630 - PRIMA 970

MANUALE ISTRUZIONI e MANUTENZIONE

INSTRUCTIONS and MAINTENANCE MANUAL

LIVRET D'ENTRETIEN

MANUAL DE INSTRUCCIONES y MANUTENCION

MANUAL DE USO e MANUTENçAO

EINLEINTUNG BETRIEBSANLEITUNG und WARTUNG

sac

sueri group

Index

THANKS

Dear Customer,

We are pleased to be able to count you among our many customers and wish to congratulate and thank you for preferring our machines. Please rest assured that we shall do our best not to disappoint your expectations.
We have compiled this manual to enable you to fully appreciate the quality of this model.
In browsing through the pages, you will discover some of the many special features that will convince you that you have made the right choice, as well as useful hints and information for using the machine in the best possible way.
Together with the manual, you will also receive the Warranty Certificate.
In view of the very simple and modern design of this machine, operation and maintenance are not at all difficult. Nevertheless, before using the machine, you are better acquainted with a number of rules and aspects that will enable you to obtain the very best standards of performance:

- long life;
- maximum output;
- operating safety;
- operator safety;
- perfect results;
- utmost ease of use.

We feel sure that, by following all the instructions provided, you will become better acquainted with your machine and obtain from it a long service life and full satisfaction.

KIND REGARDS,

CE - DECLARATION OF CONFORMITY

SUERI ALFREDO S.p.A.
Via Carpi Ravarino 115,
41010 Limidi di Soliera (MO) - Italia

DECLARES THAT THE WIDE BELT CALIBRATING-SANDING MACHINE

Model _____

Serial Number _____

Year of Manufacture _____

complies with the following provisions:

DIRECTIVE 98/37/CEE and subsequent amendments:

Essential safety and health protection requirements relating to machines.

DIRECTIVE 73/23/CEE and subsequent amendments:

Safety guarantees to be provided by electrical material to be used.

DIRECTIVE 89/336/CEE and subsequent amendments:

Electromagnetic compatibility

Compliance with the following harmonised standards:

UNI EN 292-1	EN 953	UNI EN ISO 11202
UNI EN 292-2	UNI EN 954-1	UNI EN ISO 11204
UNI EN 294	UNI EN 981	CEI EN 60204-1
UNI EN 349	UNI EN 1037	CEI EN 50081-2
UNI EN 418	UNI EN 1088	CEI EN 50082-2
	UNI EN ISO 3746	

Limidi di Soliera, date

The Managaer
SUERI EGIDIO

.....

WARRANTY

YEAR OF MANUFACTURE .....

MODEL .....

SERIAL NUMBER .....

NOTE: Before returning a copy of this document signed by way of acceptance, please carefully read the general Warranty conditions, especially paragraphs 7.8.9.10.11, to be strictly enforced.

1. The supplier warrants machines for 12 months from date of shipment. Work hours exceeding 40 per week shall result in such warranty period being reduced;
2. The warranty comprises: project characteristics whenever confirmed in writing by the supplier, manufacturing faults, workmanship faults and material faults. The latter only in the case of their being acknowledged using the technological means at the supplier's disposal. Deficiencies or defects due to normal wear and tear are excluded;
3. The warranty does not cover machine tools and fittings;
4. The customer shall be entitled, according to the decision of the supplier, to the replacement or repair of any faulty parts, with the exclusion of any other form of warranty. More specifically, any payment of direct or indirect damages is excluded;
5. The customer shall notify the supplier of any defects in writing just as soon as these are discovered and, at the customer's request, shall dispatch the parts to be replaced or repaired free of charge;
6. The customer shall give the supplier adequate time to make replacements or repairs and bear the costs of returning new or repaired parts. In the event of repairs or replacements being made in the customer's premises, the latter shall put at disposal the necessary auxiliary personnel. Costs of removing and refitting parts under warranty shall be charged to the customer;
7. In the event of the claim being unjustified, replacement and/or repair costs shall be charged to the customer;
8. The warranty does not cover defects caused by installation and testing carried out by personnel unauthorised by the manufacturer and therefore unable to understand the reasons for possible operating faults or machining faults. - Use of the machine by untrained personnel (improper or incorrect use). - When the user has not performed the jobs assigned to it according to the instructions indicated in the manual, such as: power line of adequate capacity and featuring all safety devices, adequate extraction and compressed-air system, etc. - overloads and similar;
9. The warranty shall become ineffective in the event of the customer having made alterations to the machine or its parts without the supplier's written permission, of routine maintenance operations not having been performed in accordance with the instruction booklet, whenever

the machine is used for purposes other than those intended and in all those cases where the solutions to problems are provided in the instruction booklet.

10. In the event of the machine having been sold directly by the manufacturer to the direct user, and the latter is not up to date with the terms of payment to the manufacturer, this warranty shall automatically cease effect;
11. The WARRANTY shall also cease effect in the event of a copy of this document not being returned to us with attached photocopy of the Delivery Note or Invoice.

COMMISSIONING AND USING THE MACHINE

1.1 MACHINE DESCRIPTION

Calibrating sanding machine for solid woods, veneered and painted woods, but which, when suitably adapted, can be used to satin finish metal, plastic and ceramic surfaces.

Thanks to the use of one or more sanding belts, selected from among those with the most suitable finishing grains, small quantities of material can be removed, with amounts varying according to the selected grain, in order to create a flat and uniform surface, without any unevenness and with a fine aesthetic finish, to both touch and look at.

The models are available with one or more operating units, mainly consisting in calibrating or sanding rollers of various diameter, or in longitudinal or transversal pneumatic or sectioned pads.

Most of the machines have the following features:

- First pressure roller covered in rubber and featuring workpiece anti-return device;
- Belt protection photocells;
- Stop microswitch on doors;
- Protection of worktable with front and rear guard complete with workpiece slide rollers;
- Set for connecting up to extraction system to reduce the quantity of dusts in the air;
- Centring of the sanding belt by means of an infra-red electronic device to reduce the consumption of compressed air;
- Main motor start with switching or automatic device;
- Machine built to European CE standards.

1.1.1 Machine identification

The machine type and model are indicated on the machine identification plate (See Fig. 'Identification Plate' page 2) attached on the right side of the machine. (See Fig. 'Position of identification plate' page 2).

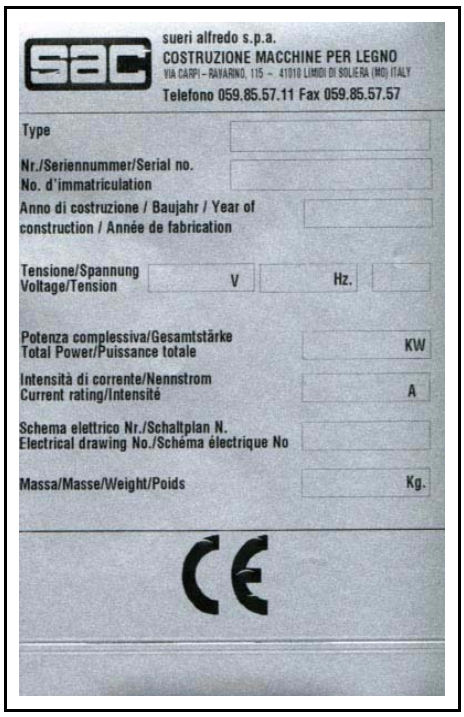

Fig. 1.1 Identification Plate

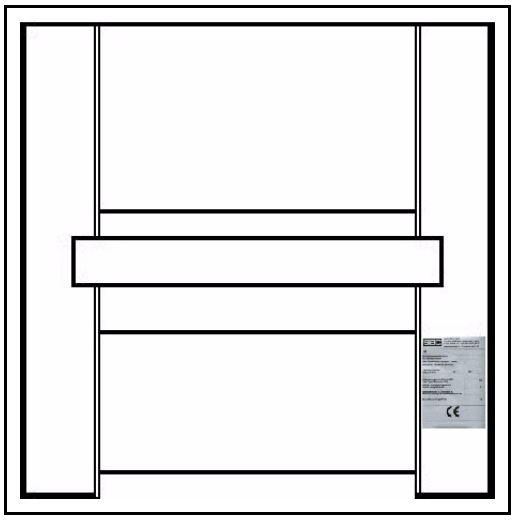

Fig. 1.2 Position of identification plate

This shows:

- Manufacturer's adress;
- Machine model;
- Machine number;
- Year;
- Total weight of the machine in KG;
- Total motor power in KW;
- Rated input in Ampère;
- Operating voltage in Volt;
- 3-phase current in Hz;

1.1.2 Correspondence

Write or phone to the dealer or directly to the manufacturer, as regards the machine.
To replace pneumatic spare parts, refer to the chapter "Wiring drawing and components list", indicating the code. For more information about operation and other problems (eg. electric problems) look for all possible references in the following manual.
Please always supply the following information:

- Machine model;
- Machine number;
- Name of the dealership where the machine was bought;
- Date of purchase.

1.1.3 Recommendations for after-sales service

In drawing up this instruction booklet, account has been taken of all the operations that fall within routine maintenance.
We advise against making repairs or doing jobs not indicated in this manual.
All the operations requiring the dismantling of parts should be done by professional and/or authorised technical personnel.
Only trained and skilled personnel, after reading this manual, are authorised to use the machine and perform maintenance operations.
With regard to technical problems concerning After-Sales service, please provide the following information:

- Voltage;
- Frequency;
- Detailed information of any defect found;
- Detailed information on the job to be carried out;

- Period of use and operating hours.

Please send spare part requests by FAX. (See “Spare parts manual” enclosed)

1.1.4 Control Sheet for customer and 1 copy for assistance

Tab. A: Control Sheet

MACHINE MODEL: Serial number: Year of manufacture: Internal Tester:		Date	
CUSTOMER: Adress: Telephone number: External Tester: Stamp and signature of the customer:		Date	
Test control diagram		Internal	External
1) Check that the composition of the machine confirms to the written order and in return the serial number confirms to the one written on the order.			
2) Check the lifting units (screws, roughness of the screw thred 0,8, lock nuts, screw thread control).			
3) Check the lifting units (pistons and MS jackets and check the porosity for the oil tight joint).			
4) Check the flatness and parallelism of the belt holder table before assembly the rollers.	mm 0.02		
5) Rigidity and parallelism control and check the correct alignment of the table in relation to the roller.	mm 0.02		
6) Check the working tension based on the order.	Volt		
7) Regulate the working pressure of the entrance pneumatic system.	Bar 6		
8) Check the correct operation of the gauges indicating the pneumatic operation pressure.			
9) Check the oil level in the pneumatic lubricators and control the micro-mist which should let a drop fall every.....	20/30”		
10) Check the grease in the table lifting screws (only where foreseen).			

Tab. A: Control Sheet

11) Check the oil in the lifting pistons screws (only where foreseen).			
12)Check the grase content in the bearing lubricators (only where forseen)			
13) Check the oil level in the speed-variators, particularly in the vertical installed ones, which must exceed that indicated by the cover glass and must totally fill the box.			
14) Check the noise and vibration level which can be provocated by rollers, pulleys, discs unbalanced motors, motor supports with clearances, or causings with internal tensions which have to be totaly eliminated.			
15) Check the homogenization of the belt translation system, and the number of oscillations per minute.	Min 55 Max 70		
16) Check the belt tensioning and relative centering control			
17) Check the progressiveness of the pneumatic cylinder, on the belt transverse, roller descent, and on the pad unit.			
18) Check the exact position of the zero points of measures (see pad, moveble rollers, table, polishing unit, shoe pressers ect...and all with an 80 grain abrasive belt on the first belt 120 on the second belt and 150 on the third.			
19) Thickness control and connection of the felts on the pad			
20) Check the alignment and the positioning quote of the roller pressers in relation to the sizing roller with abrasive paper.	3 mm less		
21) CCheck the alignment and sizes of the shoe roller pressers in relation to the sizing roller with abrasive paper.	betw. + 1 - 1,5/2		
22) Control of the eccentricity of the rollers with respect to the table.	max 0.1		
23) Indicate with red colour all screws of the units already controlled so as to be able to check whether anyone has been removed in particular (presser screws, sizing rollers, fastering screws, crosspiece ring nuts and supports, eccentric pin, platen bar support, lifting liners).			
24) Control of suction hood distance from belt as technical draws in project.			
25) Control of the distance and operation of all safety microswitches.			
26) Fuse and overload locking control.			
27) Check the stroke of the roller feeler and of the microswitch/es controlling the descent of pad, rollers, floating tables ect.	3 mm less		
28) Check belt tensioning and belt lifting and lowering speed.			

Tab. A: Control Sheet

29) Check of belt tensioning and relative ascent and descent speed.			
30) Check of automatic, commutating time, star delta, triangle of main motors, as soon as the ammeter arrives at the bottom of the scale it must start.			
31) Check of front and rear belt roller-unit alignment.			
32) Check of speed indicator zero-setting on the speed-variators.			
33) Check the differential pressure on the floating table cylinder, of small tables, the blockage and unblockage of pneumatic shoe pressers.			
34) Check the correct sequence of all the semi-automatic or automatic systems commanded and controlled by electronic systems, type: cycle and sequences of various pad units, blowers, positioning ect.			
35) According to machine model, the following working checks on different materials and surfaces should be carried out, eg: hardwood,chipboard, MDF,veneered surfaces of various type on different supports, paints ect.			
36) N.B. Added to the above points the relative rules of the concerened country must be checked.			
37) The maintenance and use handbook must be checked to ensure conformation to the relative machine.			
38) After first workshop testing, a copy for the After-Sales Department should be filed. One copy should be inserted in the Instruction Manual provided with the machine, which after testing in the customer's facility will remain, once completed, at the customer's disposal. The tester's copy must be signed by the customer and returned to the After-Sales Department.			

Tab. B: Control Sheet

MACHINE MODEL: Serial number: Year of manufacture: Internal Tester:		Date	
CUSTOMER: Adress: Telephone number: External Tester: Stamp and signature of the customer:		Date	
Test control diagram		Internal	External
1) Check that the composition of the machine confirms to the written order and in return the serial number confirms to the one written on the order.			
2) Check the lifting units (screws, roughness of the screw thred 0,8, lock nuts, screw thread control).			
3) Check the lifting units (pistons and MS jackets and check the porosity for the oil tight joint).			
4) Check the flatness and parallelism of the belt holder table before assembly the rollers.	mm 0.02		
5) Rigidity and parallelism control and check the correct alignment of the table in relation to the roller.	mm 0.02		
6) Check the working tension based on the order.	Volt		
7) Regulate the working pressure of the entrance pneumatic system.	Bar 6		
8) Check the correct operation of the gauges indicating the pneumatic operation pressure.			
9) Check the oil level in the pneumatic lubricators and control the micro-mist which should let a drop fall every.....	20/30”		
10) Check the grease in the table lifting screws (only where foreseen).			
11) Check the oil in the lifting pistons screws (only where foreseen).			
12)Check the grase content in the bearing lubricators (only where forseen)			

Tab. B: Control Sheet

13) Check the oil level in the speed-variators, particularly in the vertical installed ones, which must exceed that indicated by the cover glass and must totally fill the box.			
14) Check the noise and vibration level which can be provocated by rollers, pulleys, discs unbalanced motors, motor supports with clearances, or causings with internal tensions which have to be totaly eliminated.			
15) Check the homogenization of the belt translation system, and the number of oscillations per minute.	Min 55 Max 70		
16) Check the belt tensioning and relative centering control			
17) Check the progressiveness of the pneumatic cylinder, on the belt transverse, roller descent, and on the pad unit.			
18) Check the exact position of the zero points of measures (see pad, moveble rollers, table, polishing unit, shoe pressers ect...and all with an 80 grain abrasive belt on the first belt 120 on the second belt and 150 on the third.			
19) Thickness control and connection of the felts on the pad			
20) Check the alignment and the positioning quote of the roller pressers in relation to the sizing roller with abrasive paper.	3 mm less		
21) CCheck the alignment and sizes of the shoe roller pressers in relation to the sizing roller with abrasive paper.	betw. + 1 - 1,5/2		
22) Control of the eccentricity of the rollers with respect to the table.	max 0.1		
23) Indicate with red colour all screws of the units already controlled so as to be able to check whether anyone has been removed in particular (presser screws, sizing rollers, fastering screws, crosspiece ring nuts and supports, eccentric pin, platen bar support, lifting liners).			
24) Control of suction hood distance from belt as technical draws in project.			
25) Control of the distance and operation of all safety micro-switches.			
26) Fuse and overload locking control.			
27) Check the stroke of the roller feeler and of the microswitch/es controlling the descent of pad, rollers, floating tables ect.	3 mm less		
28) Check belt tensioning and belt lifting and lowering speed.			
29) Check of belt tensioning and relative ascent and descent speed.			
30) Check of automatic, commutating time, star delta, triangle of main motors, as soon as the ammeter arrives at the bottom of the scale it must start.			

Tab. B: Control Sheet

31) Check of front and rear belt roller-unit alignment.			
32) Check of speed indicator zero-setting on the speed-variators.			
33) Check the differential pressure on the floating table cylinder, of small tables, the blockage and unblockage of pneumatic shoe pressers.			
34) Check the correct sequence of all the semi-automatic or automatic systems commanded and controlled by electronic systems, type: cycle and sequences of various pad units, blowers, positioning ect.			
35) According to machine model, the following working checks on different materials and surfaces should be carried out, eg: hardwood,chipboard, MDF,veneered surfaces of various type on different supports, paints ect.			
36) N.B. Added to the above points the relative rules of the concerened country must be checked.			
37) The maintenance and use handbook must be checked to ensure conformation to the relative machine.			
38) After first workshop testing, a copy for the After-Sales Department should be filed. One copy should be inserted in the Instruction Manual provided with the machine, which after testing in the customer's facility will remain, once completed, at the customer's disposal. The tester's copy must be signed by the customer and returned to the After-Sales Department.			

SAFETY AT WORK

2.1 GENERAL SAFETY RULES

The machine operator and the person in charge of operations must carefully and fully read this instruction booklet before working with the machine.
Look after this manual carefully. It should be a constant reference for the operator for all those requirements that could arise during the life of the machine.
The Manufacturer is engaged in constantly updating its products with consequent possible changes to machine parts.
All the technical information contained in this manual belong to the Manufacturer only and should be considered of a confidential nature.
Even partial reproduction and disclosure of such information is therefore forbidden without the written permission of the manufacturer.
Using this manual for purposes other than those strictly related to machine installation, operation and maintenance is forbidden.
In an attempt to explain how to operate and adjust the machine in a better and clearer way, some illustrations may show the machine without safety guards; never ever use the machine in this condition and, if maintenance jobs or repairs are done, follow the instructions in the "PERIODIC MAINTENANCE" chapter of this manual.
The machine has been built in conformity with the safety regulations of EEC Directive 98/37. The replacement of parts must be done using component parts acquired directly from the Manufacturer. The use of parts not supplied by the Manufacturer, or failure to carefully follow the maintenance instructions indicated in this manual will automatically release the Manufacturer from all liability.

2.1.1 Symbols

To highlight those parts of the manual relating to personal safety, the following symbols have been used for machine operation and maintenance:

IMPORTANT
Information or procedures which, unless carefully followed, could cause death or serious injury.

CAUTION
Information or procedures which, unless carefully followed, could cause minor injuries or damage to the machine.

ELECTROCUTION HAZARD
Information or procedures which, unless carefully followed, could cause death or serious injury.

IMPORTANT
Information or procedures advising the operator how to use the machine or equipment properly to extend machine life and prevent damage or programming loss, optimising operation while abiding by the safety norms.

NOTE
Important information or procedures.

The following symbols have also been included:

Use is recommended of the individual protection devices for the eyes.

Use is recommended of the individual protection devices for the ears.

Use is recommended of the individual protection devices for the hands.

Use is recommended of the lower limb protection devices to prevent crushing due to pieces falling while handling.

2.2 INTENDED AND IMPROPER MACHINE USE

The machine is intended to perform sanding and calibrating operations on solid wood, veneered wood and plastic materials with characteristics similar to wood.
Any other use or operation on materials different to those indicated (for instance metals or materials with characteristics similar to metals) is forbidden as it could cause risks for the operator.
The manufacturer cannot accept liability for injury to persons and/or damage to things caused by improper use. In these cases, only the user shall be liable.
This machine cannot work in explosive environments.

2.2.1 Precautions to be taken when using the machine

Important: Do not insert window frames holding them tightly, (see Fig. 'Wrong workpiece grip' page 16), only push them towards the infeed table of the machine, to avoid crushing your hands (see Fig. 'Correct workpiece grip' page 16).

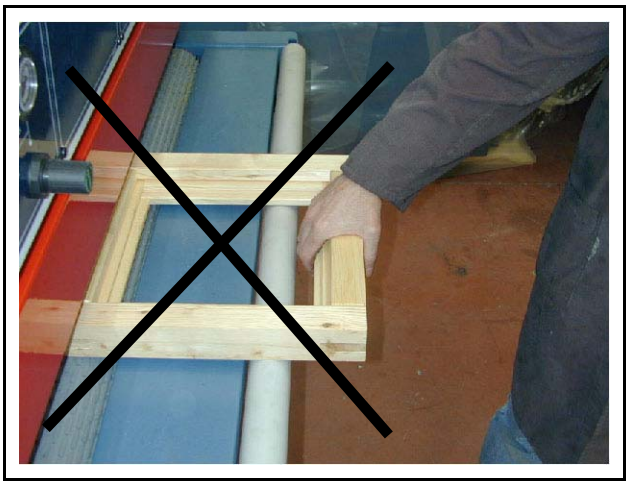

Fig. 2.1 Wrong workpiece grip

Fig. 2.2 Correct workpiece grip

When connecting up to the power supply, always make sure the power specifications of the machine correspond to those of the mains and that the machine is properly earthed; the skilled electrician who does these jobs must be reminded of this.
Before starting up the machine, make sure there are no foreign objects inside the machine or on the worktable.
Before doing any jobs, make sure all the handles and/or knurled knobs on the machine are tight.
Whenever a maintenance job has to be done on the machine, switch this off and disconnect the power supply, place the master switch on 0 and padlock it.
Never do maintenance, cleaning or adjustment jobs while the machine is moving.
Machining pieces that are too small or big for the machine can represent a hazard for the operator or anyone standing nearby; always make sure the pieces to be machined are within the capacity of the machine.

Do not remove or modify the protection devices in order to change machine operating capacity.
The protection devices must be checked regularly to make sure they are working properly, e.g. before each work shift.
Be especially carefully in selecting and servicing belts.
Never use deformed or excessively worn tools. Besides having negative effects on work quality, these can also be hazardous and increase machine noise.
Always wear gloves when handling tools.
Correct machine maintenance ensures safer operation and better quality results.
Never leave the machine unattended during operation.
Periodically clean up the working area around the machine.

2.3 OPERATOR TRAINING

It is most important for all the operators to be adequately trained to adjust and use the machine.
The following points in particular are very important:

a) Knowledge of machine adjustment principles and its use for the kind of job to be done and size of the piece to be machined;

b) Correct choice of belt grain in relation to the type of job to be done;

c) Position of hands in relation to the job to be done;

d) Safe handling of piece during machining. Always use roller conveyors when machining long pieces;

e) Safe piece storage before and after machining;

f) Correct adjustment of the safety devices;

g) Only start work once the machine has reached correct operating speed;

h) Use of individual protection devices to protect the ears, eyes and lower limbs.

This machine has been designed and built to provide the user with an adequate degree of safety. Dangerous situations can occur due to incorrect machine use, inexperience and tampering with safety devices; machine operators should always take into account all the possible hazards and carefully follow all the safety instructions in this booklet.

2.4 INDIVIDUAL RISK FACTORS

Certain clothes and objects worn by the operator could cause accidents. Avoid wearing dangerous objects such as: rings, watches, bracelets, overalls with wide sleeves, belts not tightened round the waist, ties and in general any object that could become trapped in a moving part during machine operation.
Long hair should be collected up behind the head.
During machine operation, unauthorised persons should never stand near the machine.
Never use the machine while distracted.

2.5 PROTECTION AND SAFETY DEVICES

The machine features the following protection and safety devices:

- Emergency stop button;
- Padlockable master switch;
- Self-braking motor with operation within 10s;
- Interlocked front guard;
- Rear interlocking microswitch;
- Machine stop with slack sanding belt (not tensioned);
- Check valve with total absence of air;
- Belt position photocells;
- Belt outfeed emergency;
- Stop microswitch on doors;
- Belt position photocells.

The correct operation of the protection and safety devices should be periodically checked.

2.5.0.1 Front emergency bar

The first emergency bar indicated by (E) (see Fig. 'Front emergency bar' page 19) is located above the work piece holder at the inlet mouth, and is made of a sheet metal profile that in turn ensures very good protection, should hands be accidentally inserted. In fact, in case of contact, it immediately stops the machine and avoids crushing or abrasion. Moreover, there is also a main mushroom switch placed on the control panel, a mushroom switch at the back of the machine, micro-switches on doors, micros on the belts and on the pressure gauge.
These work in the following cases:

a) Accidental insertion of hands in the inlet mouth;

b) Insertion of pieces that are longer than those being processed;

c) To stop the machine in all cases when the use of the mushroom switch is not possible.

In order to activate emergency functioning, push it. In either case, the operation sets off the micro switch indicated by (A) (see Fig. 'Micro switch' page 19) with immediate stopping of the machine.
With the cable emergency device, the machine can be stopped also by a second operator at the outfeed of the conveyor belt.

Fig. 2.3 Front emergency bar

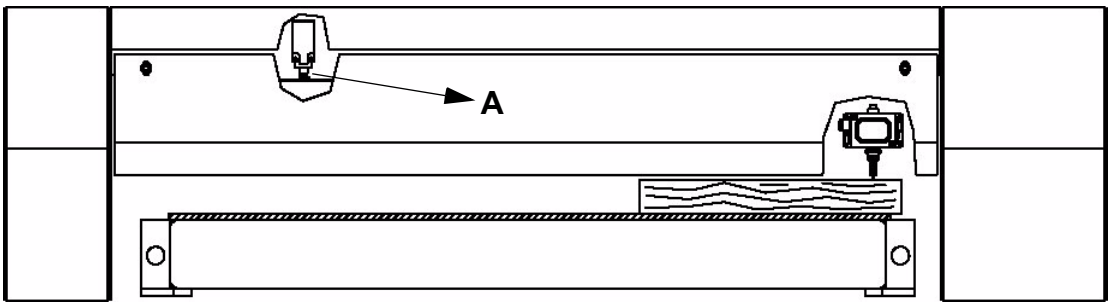

Fig. 2.4 Micro switch

2.5.0.2 String emergency device

This emergency device is located on the rear side of the machine and over the belt table. If the machine is supplied with a brush roller, the emergency device is fitted within easy reach to the rear part of the roller.
Its function is the same as that of the round emergency button on the front. Just pull the red cable and the machine stops immediatly. This emergency device must be enabled during any mantenance operation and in the event of danger.
The microswitch causes an emergency stop even when the cable is broken or loosened. A special tie-rod (V) (see Fig. 'Rear cable' page 20) has been installed for the tensioning adjustment. Also make sure the microswitch pin (B) (see Fig. 'Rear cable' page 20) is in the correct position for the machine operation.

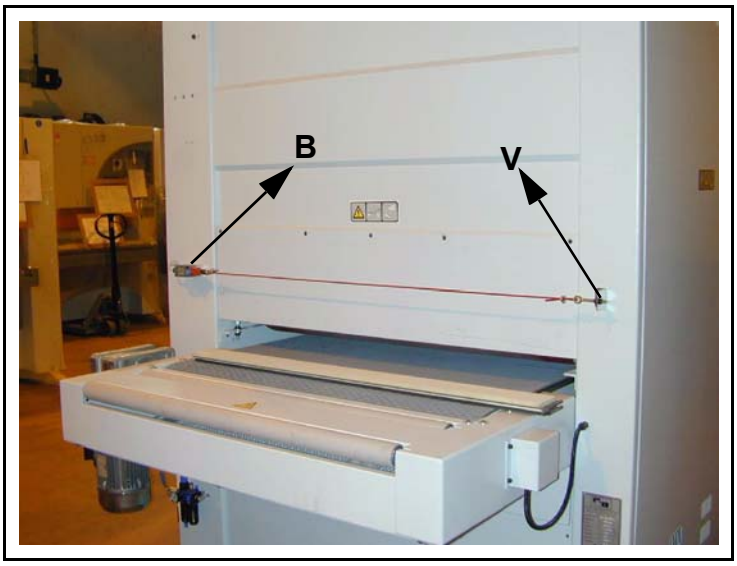

Fig. 2.5 Rear cable

The microswitch index marked (C) must be positioned exactly half way along the green edge marked (D) (see Fig. 'Rear microswitch detail' page 21) to ensure machine operation. Incorrect index positioning will result in the contacts inside the emergency cable device being locked.

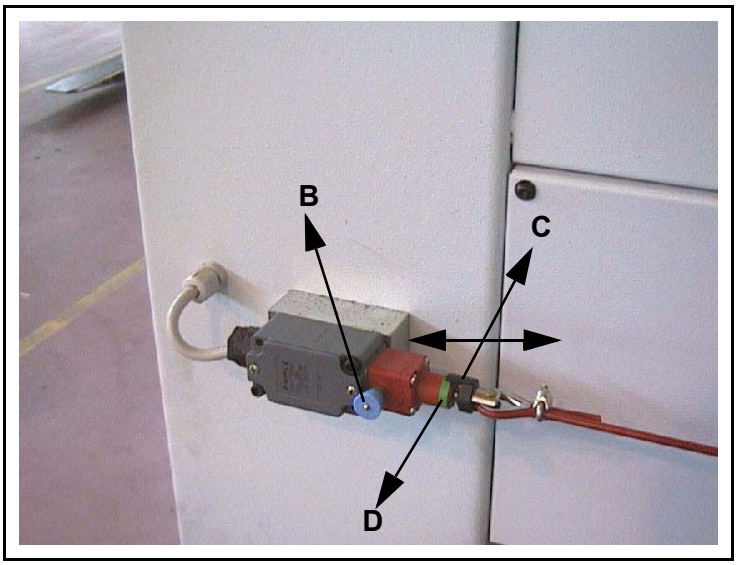

Fig. 2.6 Rear microswitch detail

2.5.0.3 Micro switch on doors

The emergency microswitch (F) (see Fig. 'Door side micro' page 21) positioned on machines PRIMA - SMART and the emergency microswitch (G) (see Fig. 'Door side micro' page 21) positioned on machines CONCEPT - PROJECT stop the machine when the doors are open. In order to restart, they must be closed before pressing the START button.

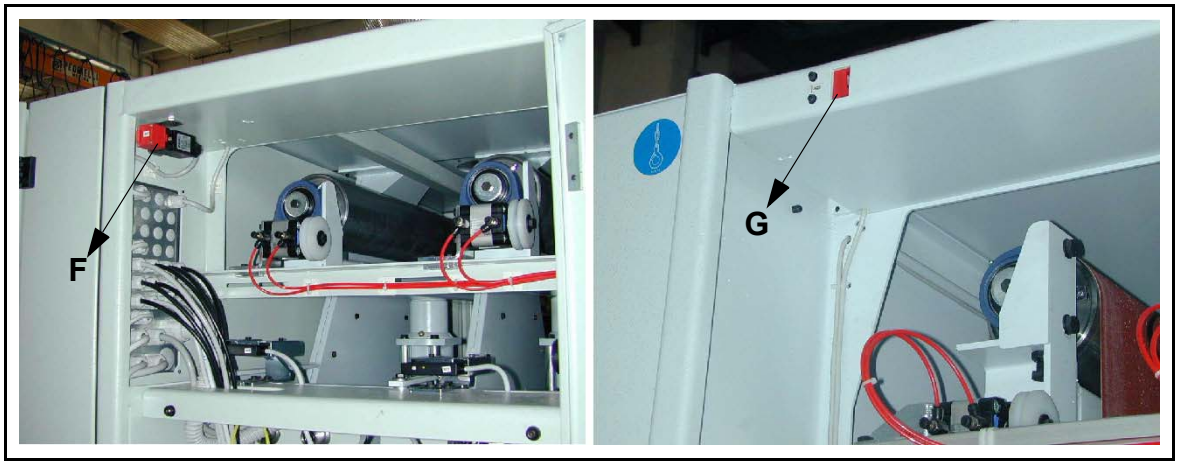

Fig. 2.7 Door side micro

2.5.0.4 Main padlockable switch

The main switch can be padlockable.

2.5.0.5 Optronic device to control the belt tracking (mod. Mectron)

It is made of three photocells. (see Fig. 'Optronic device' page 22).
The first (1) controls the presence of the abrasive belt. In case of breaking or absence of belt, the machine will not work.
The second (2), in the middle, transmits impulses to the solenoid valve so as to make the belt oscillation. It is also used as a test to detect belt presence.
The third is used in emergency cases such as belt running out of the right side of the machine.
Attention: on main board next to each belt start switch there is a yellow led which flashes at every oscillating impulse. If the light is on all the time, it is necessary to remove all dust accumulated.

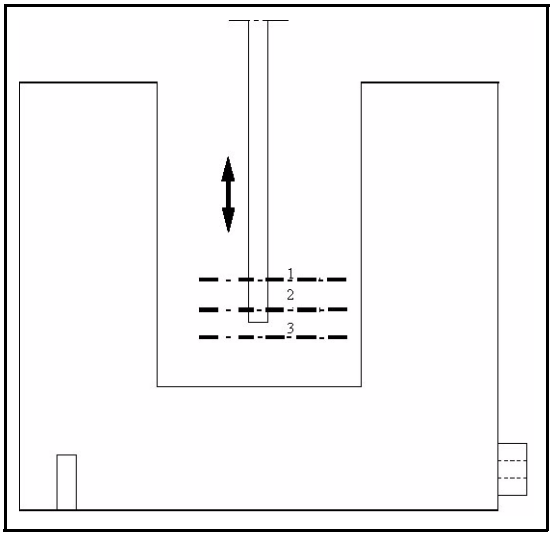

Fig. 2.8 Optronic device

2.5.0.6 Pneumatic pressure gauge

The pneumatic pressure gauge indicated by (1) (see Fig. 'Pneumatic pressure gauge' page 23) stops the machine each time compressed air is lacking or falls below 4 atm.
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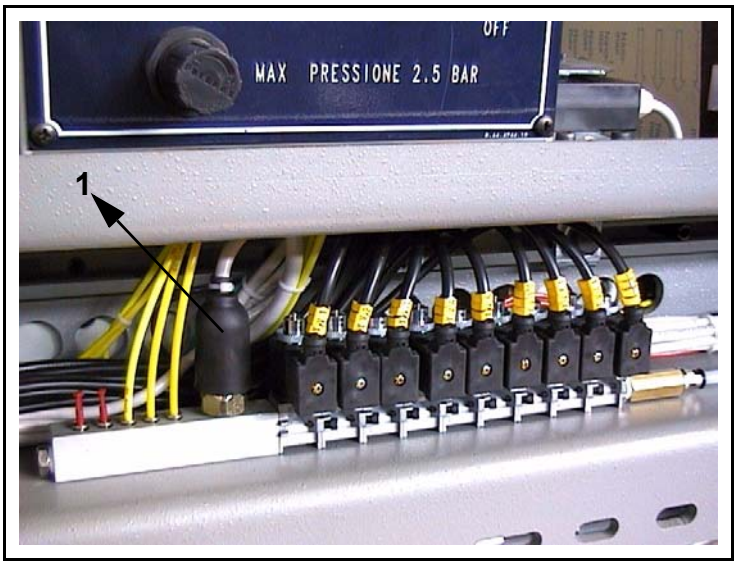


Fig. 2.9 Pneumatic pressure gauge

2.5.0.7 Pressure switch

When the pressure switch marked (2) (see Fig. 'Pressure switch' page 23) trips, it stop the machine to indicate that the sanding belt is not tight.

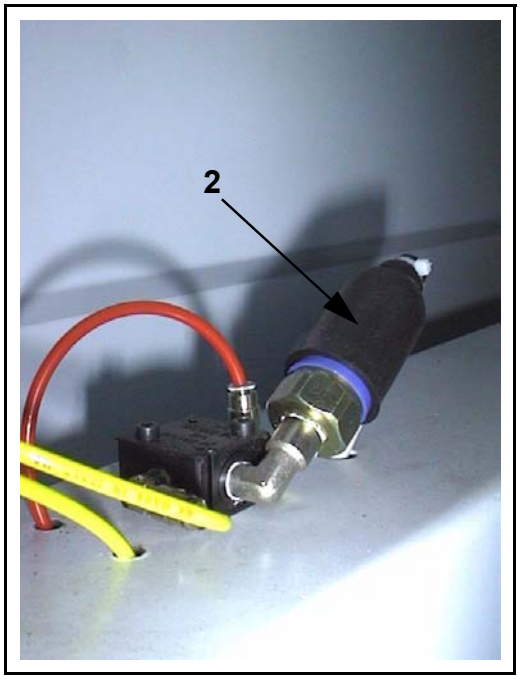


Fig. 2.10 Pressure switch

2.6 ENVIRONMENTAL SAFETY

2.6.1 Noise levels

Operating conditions for measuring noise levels are in conformity with attachment D of ISO 7960: 1995.
Sound emission power levels have been measured according to the measuring method that uses the development surface shown in EN ISO 3746: 1995.
Sound emission pressure levels at operator station have been measured according to EN ISO 11202: 1996.
.

Table 3: Noise level Certification

Noise level on our machines	PRIMA SMART	CONCEPT PROJECT
Average acoustic pressure standardized to EN27960 ISO03744/ISO7960	LpfA = 81.7 dBA (Lpf = 84 dB)	LpfA = 80.2 dBA (Lpf = 84.4 dB)
Acoustic power standardized to EN27960 ISO03744/ISO7960	LwA = 99.5 dBA (Lw = 101.8 dB)	LwA = 98.3 dBA (Lw = 102.8 dB)
Equivalent pressure level at the front machine operator station	Leq = 84.3 dBA	Leq = 83 dBA
Equivalent pressure level at the rear machine operator station	Leq = 84.9 dBA	Leq = 83 dBA

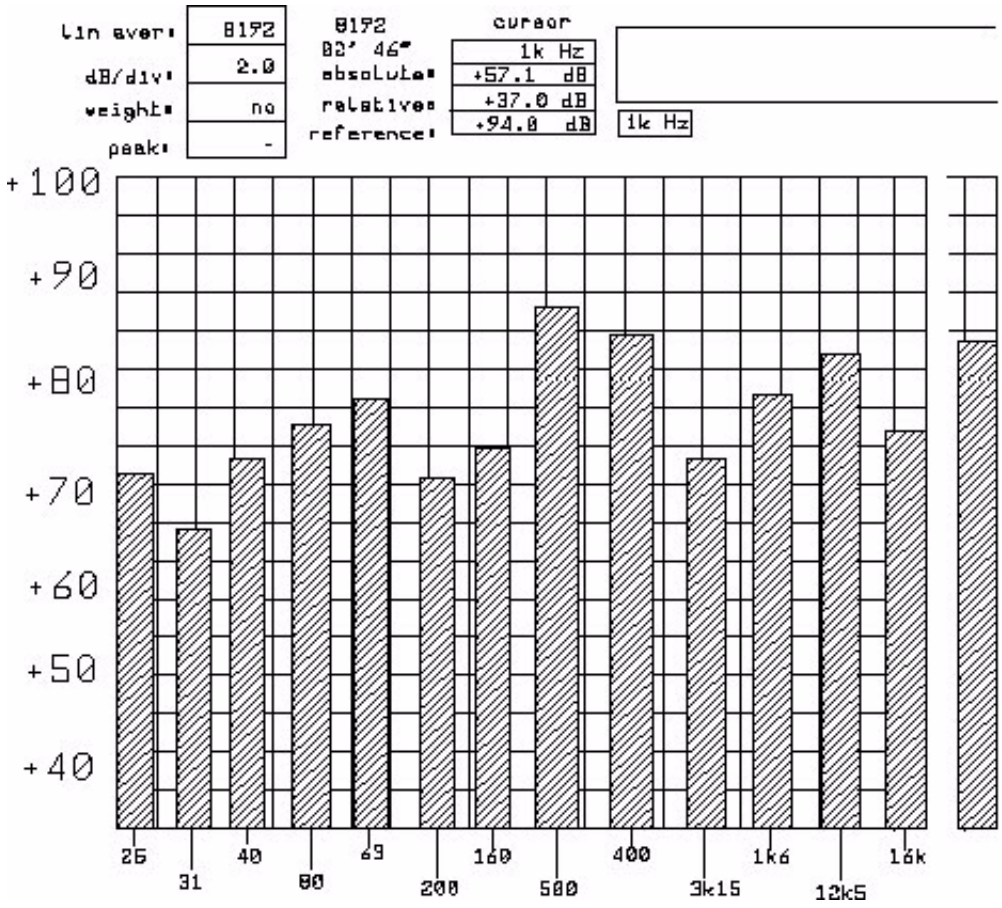


Fig. 2.11 Noise level third-octave spectrum

The indicated noise levels are emission levels and do not necessarily represent safe operating levels. Notwithstanding the fact that a relationship exists between emission levels and exposure levels, this cannot be reliably used to establish whether further precautions are necessary or not. The factors which determine the exposure levels to which personnel are subject include duration of exposure, the characteristics of the work premises and other noise sources, such as the number of nearby machines and processes. Maximum exposure levels can also vary from one country to another. In any case, this information will enable the machine user to better assess hazards and risks.

Some factors that reduce exposure to noise are:

- correct choice of belt;
- correct choice of feed speed;
- belt and machine maintenance;
- possibility on the part of the Manufacturer to line the machine guard with sound-dampening material;
- correct use of the individual protection devices

2.6.2 Dust emission levels

The operations performed with the machine produce dusts and normally the machine will be in an environment where other machines also produce dust; to prevent dangerous dust concentrations, proceed to:

- correctly connect up to the extraction system;
- perform periodical maintenance on the extraction system filters.

2.6.3 Removing and scrapping the machine

To remove the machine, disconnect this from supply points (e.g., power mains), and carefully clean and cover the worktable and tool arbors with a rust preventer. Do not store the machine in damp environments and protect it against the weather.

2.6.4 Emergency circumstances

In case of flooding in the place where the machine is located, immediately cut the power supply. Before starting work again, the machine must be checked by a skilled technician.

Always keep fire extinguishers close to the machine and ready for use. In case of a fire, immediately stop the extraction unit and close all the extraction pipes so as to break the flames.
In case of fire, immediately break power to the machine and use suitable fire extinguishers, directing the jets to the base of the flames. Even though the machine may not seem to be damaged, before starting work again have it inspected by a skilled technician.

2.6.5 Outstanding risks

Even when the guards are in place and the machine is operating correctly, the following outstanding risks could exist:

- belt breakage during operation;
- breakage of workpiece;
- electric shock;
- exposure to noise, above all if the indicated individual protection devices are not used;
- dust emissions, above all if the dust extraction system is not connected up properly or is not properly serviced.

CHAPTER 3

INSTALLATION

3.1 HANDLING AND POSITIONING

Only skilled and authorised personnel must perform loading and unloading.
Before any handling operation, make sure the lifting mechanisms have a suitable lifting capacity for the weight of the machine, shown on the latter's identification plate.

3.1.1 Lifting procedures

The machine can be lifted with a crane and by means of ropes and chains having a capacity suitable for the machine model. The cables must be of the minimum length capable of forming a 45° angle (See Fig. 'Cable angle for lifting' page 32), between the central hook and the lifting points.

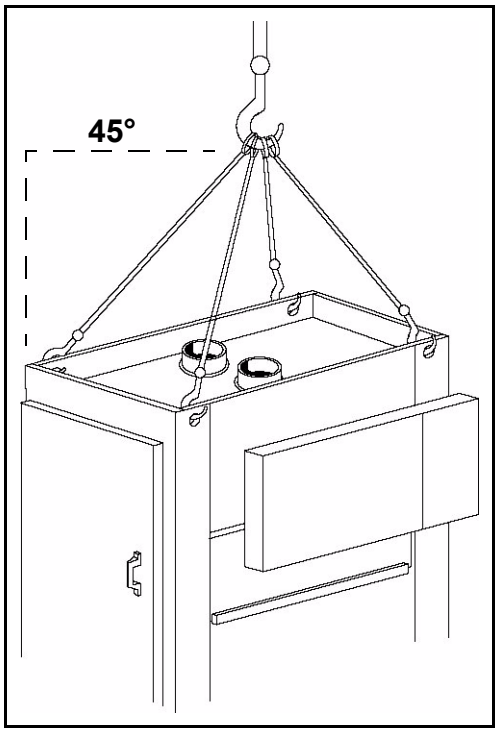


Fig. 3.1 Cable angle for lifting

Always refer to the weight of the machine shown on the plate (See Fig. “Machine identification plate” chapter “MACHINE DESCRIPTION AND USE”) located on the rear of the machine.

If the weight of the lift-truck is suitable for the weight of the machine, as shown on the identification plate, lift it after inserting non-slip material between the forks and the bed of the machine which features the wooden base used for transport.
Position the forks at max distance from each other in order to ensure safe machine lifting. To do this, secure the machine to the truck mast using sturdy cables or chains fitted in the special lifting holes on the upper part of the machine.

When moving the machine, never stand in the operating area.

3.1.2 Storage

Never leave the machine exposed to the weather and grease all parts that could rust in the event of long storage.
The environment must be dry with temperatures between 0° C and 50° C

3.2 POSITIONING

The machine must be positioned in a space of suitable size, with enough light and air and on a flat floor.

3.2.1 Positioning

Before installing the machine, remove the 4 metal sheet supports from the case + insert them as shown in the diagram at the chapter “TECHNICAL CHARACTERISTICS”. Due to its considerable weight, the machine needs not be anchored, make sure however that the flooring is strong enough and that there are no other vibrating machines nearby.

BEFORE ANY OPERATION, THE MACHINE SHOULD BE POSITIONED BY TURNING THE 4 SCREWS AT THE LOWER ENDS OF THE MACHINE, THEN LEVELLED BY MEANS OF AN AIR BUBBLE PRECISION GAUGE WHICH IS TO BE PLACED ALTERNATIVELY AT THE REAR AND AT THE FRONT PART OF THE BELT TABLE.

3.2.2 Minimum space for safe operation

Before positioning the machine, make sure the work area is large enough for correct operation.

The work area around the machine must be free of objects that could hinder operator activities, such as shelves or other structures.

3.3 PREPARING THE MACHINE FOR OPERATION

Before connecting the machine up to the various supply points, the following operations must be performed.

3.3.1 Check any damage suffered by the machine

Upon machine receipt, make sure there are no signs of damage caused during transport. If there are, immediately notify the carrier or contact the dealer and/or manufacturer directly.

3.3.2 Assembling the machine

For transport requirements, the machine could be delivered with a number of parts dismantled. Before starting work, make sure the following parts have been fitted:

- Before installating the machine, remove the 4 metal sheet supports from the case.

3.3.3 Cleaning the machine

To prevent rust forming, the machine is carefully greased. Before starting work, carefully remove the grease from the work areas and protection devices using a suitable and harmless thinner.

Carefully clean the area where the spirit level is to be placed. Make sure this rests on the rigid part of the table.

3.4 CONNECTIONS

3.4.1 Electrical connection

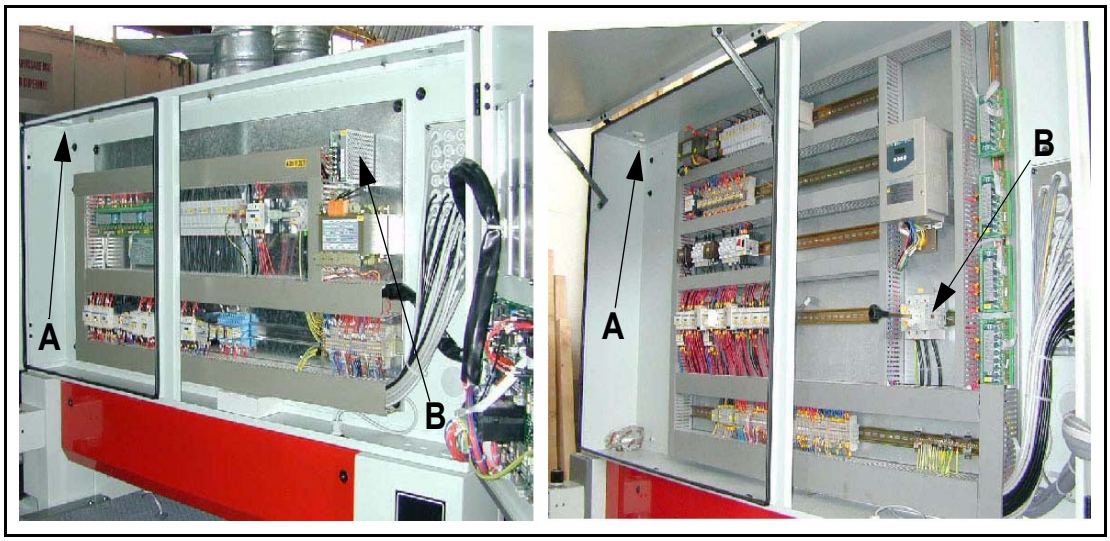


Fig. 3.2 Connections

A) Clamp screws for electrical connection;

B) Terminals for electrical connection.

Make sure that the main voltage is the same as that of the machine and that the cable sections are suitable as regards the power of the installed motors: mm^2 8x4 to 20HP, mm^2 12x4 to 40 HP. Then connect the machine to the R.S.T. points.
The machine should be connected with the supplied plug and the right fuses or with differential switch. Connection to mains must be carried out according to current safety standards in the relevant country.
N.B.: The power supply of the machines equipped with electronic equipment or frequency drive must be adjusted at + or - 5% voltage rating. The connections to the electric fan of the vacuum unit (when installed), must be made on the terminal board of the switchboard (see wiring diagram on the last pages of this manual).

ATTENTION: Check the rotation direction of the belt to see whether the phases are corretly connected. The direction must be the one indicated by the arrow on the machine roller conveyor.

N.B.: The break of the pneumatic supply does not include the cutoff of the electric power. If required, switch off the main switch located on the front of the machine.

Before making any power connections, make sure the connection cable and the relating line are not damaged, and that the 3 phases have a constant mains voltage and frequency and that they correspond to the data indicated on the machine plate.
The machine can adapt to operating voltages within a tolerance range of +/- 5%. Such fluctuations could otherwise cause faulty operation of the electronic parts (see belt oscillating system, electrics, for example machine stopping due to overload cutout).

To upgrade electrical safety, upstream of the machine, a padlockable switch must be fitted complete with AM type fuses.
In the event of the distance of the machine from the power supply point being considerable, we recommend increasing the cross section of the leads to reduce power drops along the supply line.

To make power connections, first of all open the terminal board by loosening the screws and run the power cable through the cable shoe.
Connect the three power leads (phases) to the terminals L1, L2, L3
Connect the yellow/green lead (earth lead) to the terminal PE and the neutral lead, if provided, to terminal N.
The multipole power cable must be of the N1VV-K type or in the case of mobile installation of the type marked H07RN.F.
Carefully tighten the cable shoe and close the terminal board.

3.4.1.1 Checking up/down movement

When starting the machine from the switchboard according to the procedures described, make sure that the direction of up/down movement is consistent with the keys on the keyboard.
If movement is wrong and requires correction, proceed as follows:

- Cut power to the line;
- Open the terminal board (See Fig. 'Electrical connection' page 34);
- Switch over two of the power phases, for instance by switching the lead connected to terminal L1 with that connected to terminal L2;
- Close the terminal board;
- Try up/down rotation direction again.

If the machine features belt rotation direction reversal, make sure the switch (36) on the control panel (see Fig. "Pushbutton panel" chapter "COMMISSIONING AND USING THE MACHINE") is in ON, so the belt can turn anticlockwise.

3.4.2 External air connection

The machine must be connected to a compressed-air unit, without lubrication, but filtered and de-humidified, otherwise the pneumatic components, which have to operate dry, could be damaged.
The compressor must supply air at a constant pressure of approximatly 7-8 Bar with all users connected. The main network (See Fig. 'Pneumatic connection' page 37) must feature a 2% slope towards the users, and must be of a suitable size to compensate for any pressure losses owing to interception and the lenght of the network itself. There are two connections to the 1/2" G tubing of the machine: one for the supply of the machine, the other for cleaning. The air tank collects condensation (drain occasionally) from (A) and compensates differences in pressure.
If the machine has a blower-unit, connect a separate tee-pipe (See Fig. 'Pneumatic connection' page 37).

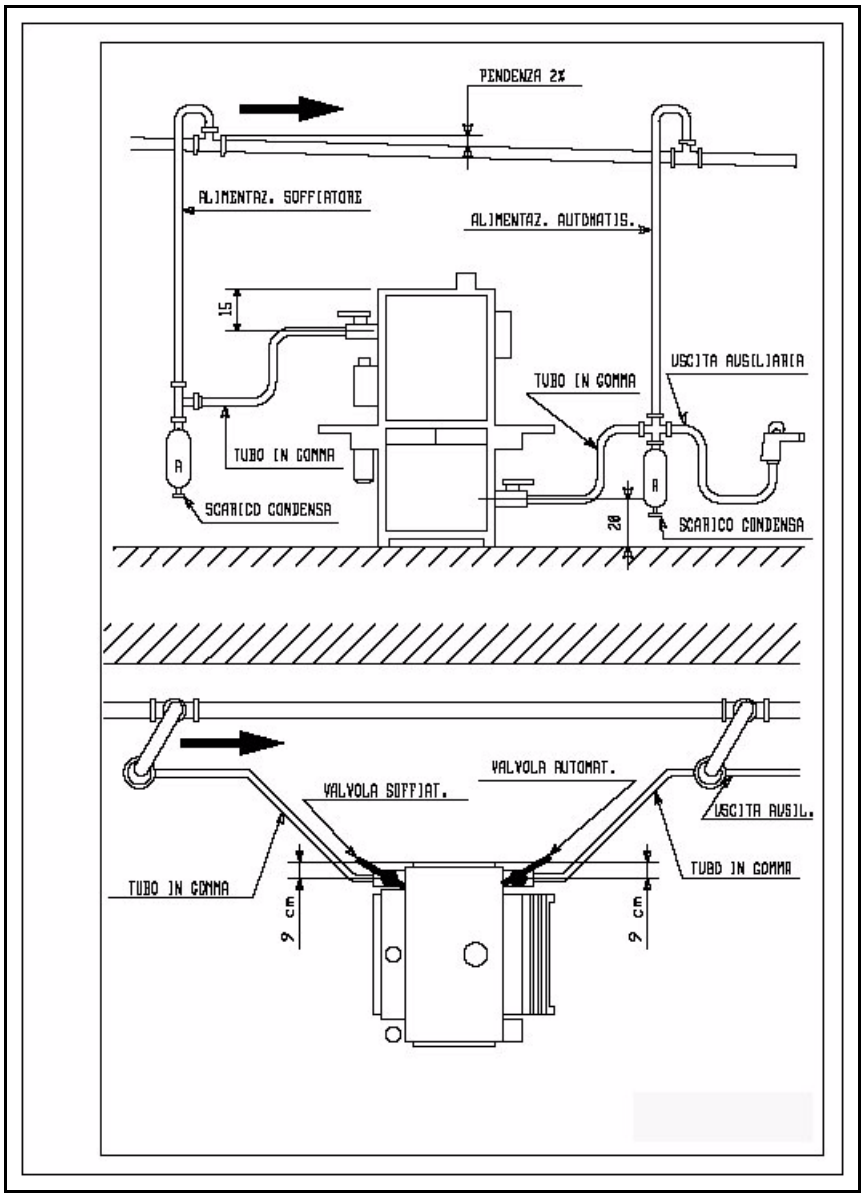


Fig. 3.3 Pneumatic connection

3.4.2.1 Pneumatic connection

The machine is equipped with a filter-reduction-lubricator assembly (FRL) which is connected to a compressed air unit as indicated (See Fig. 'FRL unit' page 37). This must not be less than 100 nl/1' at a **constant pressure of 6 atm**. The compressed air unit should be equipped with an expansion tank, or if that is not possible, there should be no other take-off nearby.
N.B.: Air must be non-lubricated, it must be clean and humidity-free.

ATTENTION: The break of the electric power supply does not include the cut-out of the machine supply. If necessary, the latter can be disconnected by means of the ball valve of the filter-reducer-lubricator assembly.

3.4.2.2 Adjustment of pneumatic system

To adjust the pneumatic system, operate the FRL assembly on the rear part of the machine (See Fig. 'FRL unit' page 37).

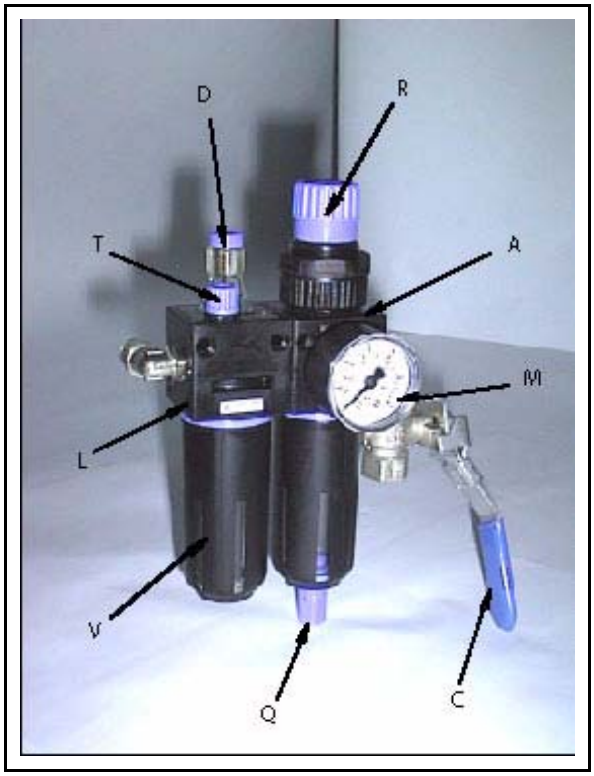


Fig. 3.4 FRL unit

The FRL group serves all the machines controls, some of which must not work with lubricated air, and is composed of a filter-reduction unit (**A**) featuring a pressure gauge (**M)** and a lubricator **(V**, **L**).
To adjust tap (**C)**, it must be opened, and then if necessary open tap (**R**) and bring the pressure to 6 atm. checking the value on pressure gauge (**M**).

Items (**T**, **Q**) refer to oil filling cap and condensate discharge cap.
Once the machine is running, regulate the metering unit (**D**) so that one drop of lubricating oil falls every 60 seconds.
The machine also features a pressure gauge which prevents the motor starting and stop, if the working pressure of the FRL group falls below 4 atm.
As regards lubrication of the FRL unit, see chapter “Periodical Maintenance” at para. “FRL Unit Re-lubrication”.

3.4.3 Blowers pneumatic connection

The blower unit features a compressed air intake and de-humidifier. It should be connected to an independent supply of compressed air equipped (if possible) with expansion tank (See Fig. ’Blower air connection’ page 38).
In this case as well, the air must not be lubricated.

The compressed air output, at a constant pressure of 6/8 atm., must be 600/700 nl/1’ per blower unit, through a connecting pipe of at least 10 mm internal diameter.

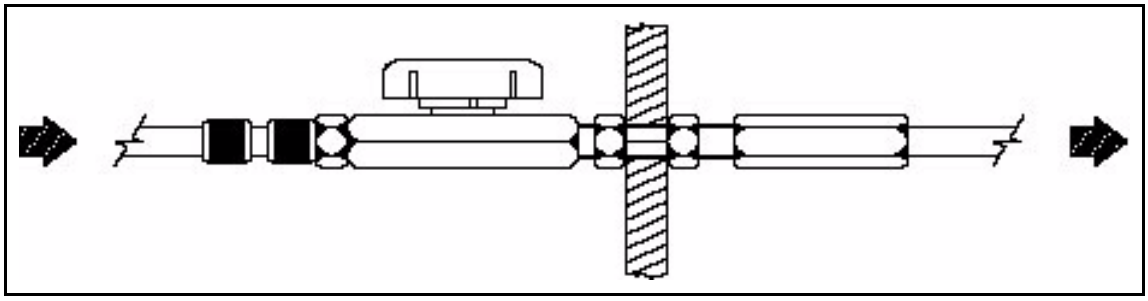


Fig. 3.5 Blower air connection

3.4.4 Extraction system connection

The machine must be connected up to an extraction system to eliminate any risk of breathing dusts and to ensure safe and correct machine operation.
Always work with the extraction system switched on.
The extraction pipes, when made of plastic, must be in fireproof material.
Dust emissions into the environment can be reduced by proceeding as follows:

- Tool and machine maintenance;
- Extraction system maintenance, keeping the filters in good condition.

Due to the kind of work carried out, sizing-sanding machines need a suction system to extract at 24/28 m/s at least 1200 m^3/h for each suction outlet of diam. 120, 1700 m^3/h for each suction outlet of diam. 150 mm, 2400 m^3/h for suction outlets of diam. 180 mm. Therefore, according to the model and the accessories supplied with the suction outlets, the amount of air to be suctioned must be calculated and an adequate system must be installed.
For the connection data, see the machine overall dimensions at the “TECHNICAL DATA” chapter.

3.4.4.1 Installation of the electro-blowing fan for the vacuum table

If the machine features a vacuum table, it is necessary to establish where the electro-blowing fan unit must be installed (See Fig. 'Suction unit' page 39). One electro-blowing fan unit consists of an electro-blower fan and a silencer. Electric fan power ratings as required according to the overall dimensions of the vacum pump.

Table 4: Vacuum table dimensions

ELECTRO-BLOWING POWER	A	B
HP 4	1055	1420
HP 5,5	1155	1420
HP 7	1155	1420
HP 10	1260	1420

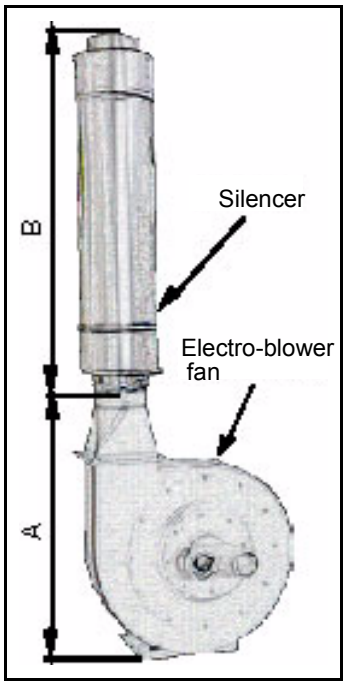


Fig. 3.6 Suction unit

3.4.4.2 Recommandations for correct installation

If the structure of the building is high enough, we suggest to install it on the top of the machine (See Fig. 'Installing on the top side' page 40), where holes

for the installation are provided. It is important to place rubber spacers to avoid any vibration.

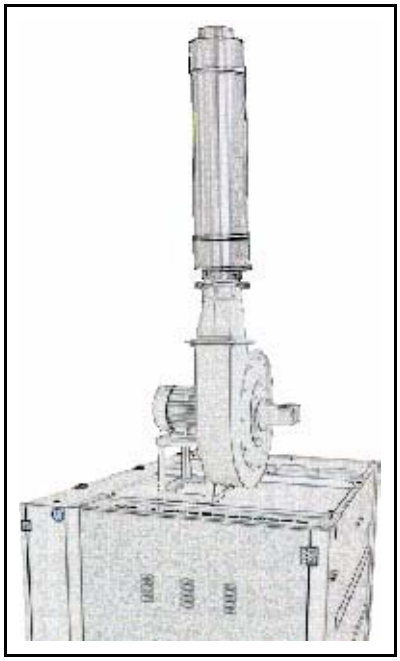


Fig. 3.7 Installing on the top side

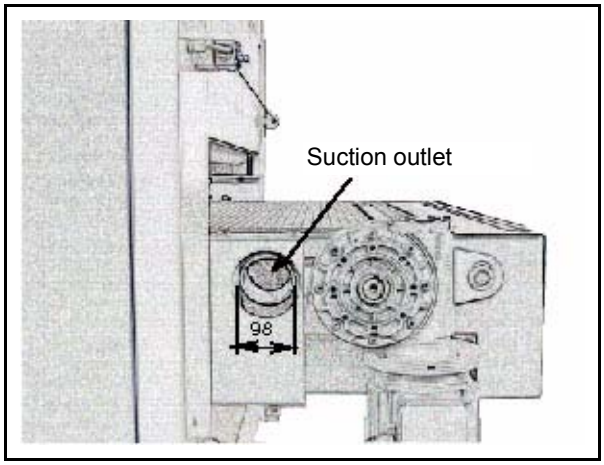


Fig. 3.8 Connection at the table

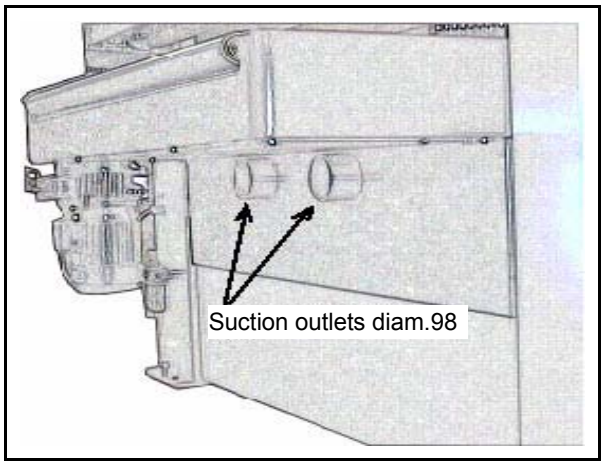


Fig. 3.9 Connection at the bottom

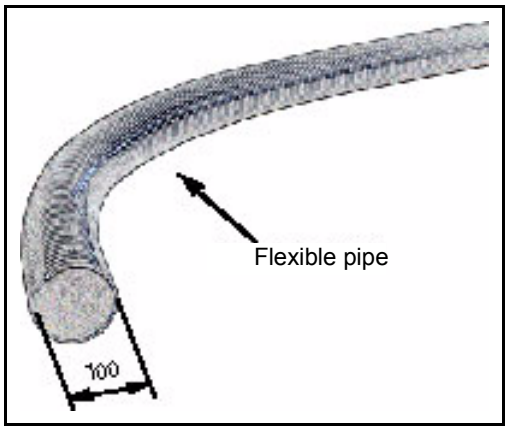


Fig. 3.10 Flexible pipe

N.B. The diameter of the suction mouths of the table is 98 mm (See Fig. 'Connection at the table' page 40), (See Fig. 'Connection at the bottom' page 41). These mouths must be connected to the electro-blower fan by means of flexible pipes of 100 mm (See Fig. 'Flexible pipe' page 41).

CHAPTER 4

COMMISSIONING THE MACHINE

Before carrying out the various positioning operations and starting the machine, the following checks must be made:

- make sure the belt fitted is the right one for the operation to be performed;
- adjust the belt speed and position the sanding belt so that the speed is correct for the tool used and type of wood being machined;
- make sure the guards are properly fitted (see “WORK SAFETY” chapter);
- make sure the height adjustment of the worktable conforms to the thickness of the material to be machined and of the tool to be used (see Par. ’THICKNESS POSITIONING’ page 64).

4.1 ELECTRIC CONTROL PANEL

4.1.1 Electric switchboard

Small machines such as the Prima 630 and Prima 970 can be manually controlled by means of switchboards featuring switches up to 15 HP (380 Volts), or up to 7.5 HP (220 Volts), or , as on other machines, automatic start-up can be selected from the button control panel

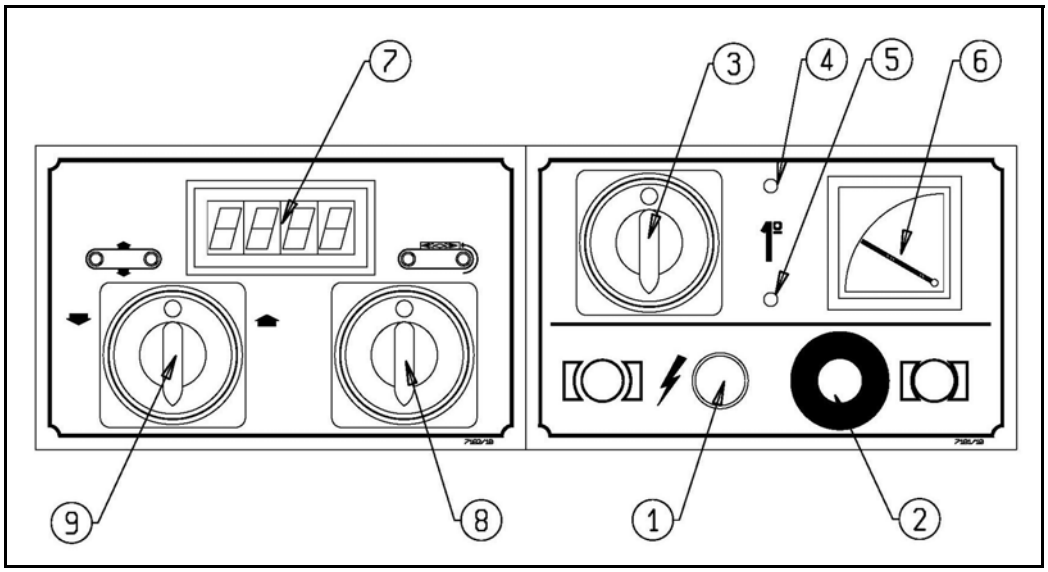


Fig. 4.1 Switch panel width 630

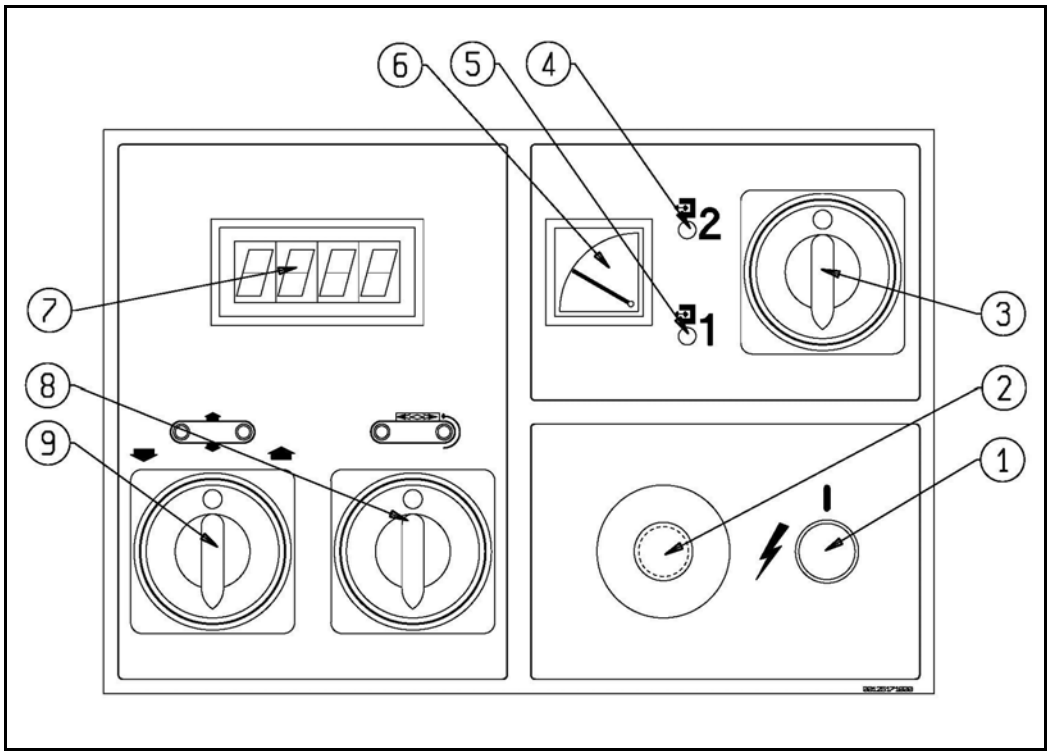


Fig. 4.2 Switch panel

The panels feature the following controls:

1. START-button for the switching on of the machine and for the release of the brake. If this button is not pressed, no other control can be operated. If

the emergency knob is pressed, START is not enabled (see operating malfunctions chapter “DEFECTS: CAUSES, REMEDIES”);
2. General emergency knob for the instantaneous STOP of the machine;
3. 1st sanding belt ON/OFF rotary switch. (It doesnot work in the following cases: if the sanding belt is missing, if it is not tightened, if the emergency button is pressed, if the START-button is off);
4. Led indicating the correct operation of the optronic belt alignment system;
5. Led indicating the correct operation of the optronic belt alignment system;
6. sanding 1st belt motor amperemeter;
7. Belt table raising/lowering display (the first three digits indicate millimetres, the last digit indicates tenths of millimetres);
8. Belt feed ON/OFF rotating switch;
9. Table raising/lowering rotating switch.

Important: In case of an emergency or machine stoppage, position all the switches to 0 (zero) before pressing START

4.1.2 Electric control panel with relevant pushbuttons

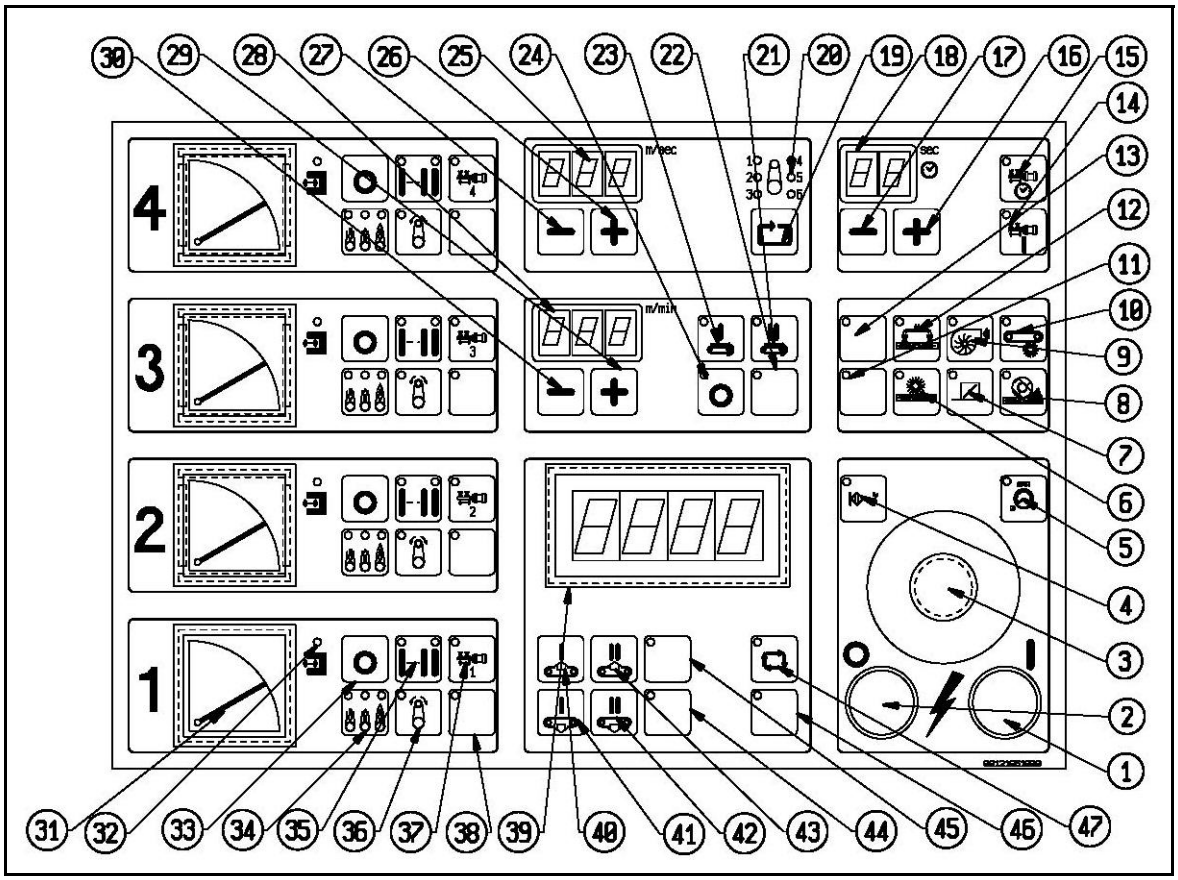


Fig. 4.3 Button panel to be installed on all models

This panel can be installed on all the models of the , SMART 1100 - CONCEPT - PROJECT - EXECUTIVESTART lines, while it can be installed as an optional on the PRIMA 630 and PRIMA 970 lines in the event of motor powers being installed above 15 HP with a voltage of 380 V.

The panel features the following controls:

1. Machine master switch;
2. Machine main cutout switch;
3. Mushroom-shaped emergency button, when pressed stops all machine functions;
4. Flashing LED indicating a thermal cutout has tripped;
5. Flashing LED indicating a drop in or no pressure in pneumatic circuit;
6. Brushing roller on/off button. The LED lights up when the roller is working;
7. Button for manually opening the extraction outlets (motors off). The extraction outlets normally open automatically when the motor of the relevant unit is switched on and switches from star to delta. Manual opening is performed to permit cleaning the extraction units when the unit motors are off;
8. Scotch-Brite roller on/off button. The LED lights up when the roller is working;
9. Worktable vacuum device on/off button. The LED lights up when the vacuum device is working;
10. - Conveyor belt cleaning brushing roller on/off button. The LED lights up when the roller is working;
11. Button with relevant LED, currently not used but available;
12. Rotating nozzle blowers on/off button. The LED lights up when the blowers are working;
13. Button with relevant LED currently not used but available;
14. Blower selection button in continuous air blowing mode. The LED lights up when this mode is selected;
15. -Blower selection button in timed air blowing mode. The LED lights up when this mode is selected;
16. Button for increasing blower timing. Time setting: duration of air blowing from the moment the piece exits from the reading bar. This adjustment must be combined with the selection of button 15;
17. - Button for decreasing blower timing. The time is set of the duration of air blowing from the moment the piece exits from the reading bar. This adjustment must be combined with the selection of button 15;
18. - Monitor showing the seconds for blower timing;
19. - Button for sequence selection of belt on which to display or change the speed (to change the belt speed a frequency drive must be fitted);
20. - The lit-up LED indicates on which belt the speed will be displayed or changed. The belt number is equivalent to its position on the machine starting from the infeed near the outfeed;
21. - Button for starting conveyor belt feed in second speed. The lit-up LED indicates the conveyor belt is moving in second speed. If the conveyor

belt moves in first speed and you wish to switch to second speed, the motor must first of all be stopped and then started in second speed;
22.- Button with relevant LED, currently not used but available;
23.- Button for starting conveyor belt feed in first speed. The lit-up LED indicates the conveyor belt is moving in first speed. If the conveyor belt moves in second speed and you wish to switch to first speed, the motor must first of all be stopped and then started in first speed;
24.- Button for stopping conveyor belt feed. The LED is lit up when the conveyor belt is stopped;
25. Monitor indicating the speed expressed in metres per second of the sanding belt selected at point 19;
26. Button for increasing the speed of the sanding belt selected at point 19;
27. Button for decreasing the speed of the sanding belt selected at point 19;
28. Monitor showing the speed of the conveyor belt expressed in metres per minute;
29. Button for increasing the conveyor belt speed;
30. Button for decreasing conveyor belt speed;
31. Ammeter showing single motor input;
32. LED indicating correct operation of single belt oscillation. When the LED flashes, oscillation is operating correctly. When the LED stays on, this means the photocell is dirty and must be cleaned;
33. Button for stopping the motor that transmits drive to the belt. The LED is on when the motor is off and the belt is stopped;
34. Button for positioning the single unit. When the button is pressed once, the roller is engaged (the roller also remains engaged when the motor is off. This permits adjustments). When the button is pressed a second time, the roller is disengaged (it remains disengaged also when the motor is switched-off). When the button is pressed a third time, the timed engagement of the roller occurs (the roller engages when the motor of the relevant unit is started and switched from star to delta. When the motor is turned off or the machine is in emergency mode, the roller returns to disengaged position). The lit-up LEDs indicate the position of the engaged roller, disengaged and timed engaged respectively;
35. Button for starting the motor that transmits drive to the belt. When the button is pressed once, the motor starts in first speed. When the button is pressed a second time, switch is made to second speed. The lit-up LEDs indicate the sanding belt operation in first and second speed respectively;
36. Button for reversing the direction of rotation of the single sanding belt. When the LED is off, the belt moves in normal direction (from machine outfeed towards infeed). When the LED is on, the belt moves in the opposite direction;
37. Button for switching the blower on the single belt on/off. The LED is lit up when the blower is working;
38. Button with relevant LED, currently not used but available;
39. Monitor showing the height in millimetres of the worktable. This component part can be replaced by an electronic programmer;
40. Button for worktable lifting (first speed);

41. Button for worktable lowering (first speed);
42. Button for worktable lowering (second speed);
43. Button for worktable lifting (second speed);
44. Button with relevant LED, currently not used but available;
45. Button with relevant LED, currently not used but available;
46. Button with relevant LED, currently not used but available;
47. Button for starting automatic positioning of the worktable. This button is only operative if electronic programmer 39 is fitted;

4.2 CONTROL UNITS (optional)

4.2.1 Check Panel

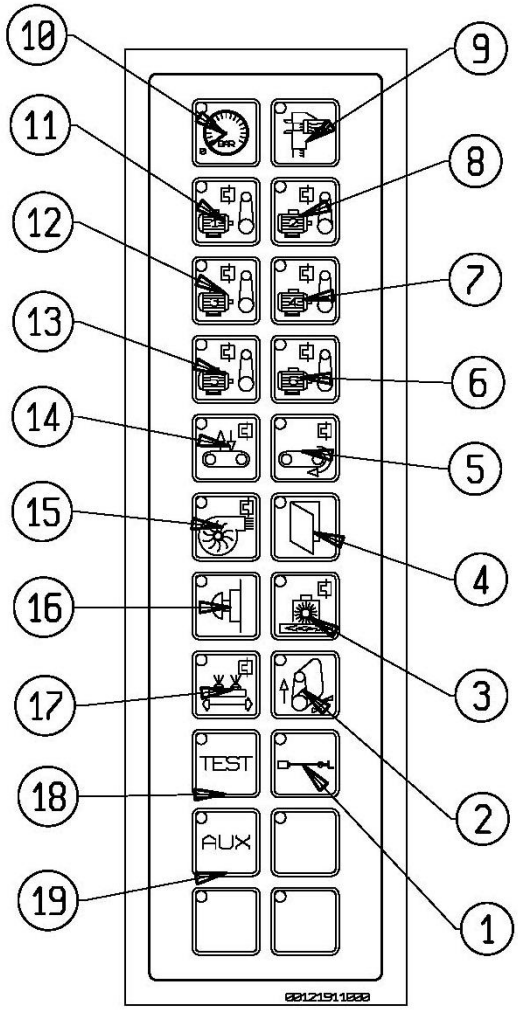


Fig. 4.4 Check Panel

1. LED indicating emergency device on the rear side;

2. LED indicating breakage emergency or no belt alignment ;
3. LED indicating thermal relay emergency on finishing roller motor;
4. LED indicating door opening emergency;
5. LED indicating overload cutout emergency on table motor;
6. LED indicating overload cutout emergency on sixth belt;
7. LED indicating overload cutout emergency on fourth belt;
8. LED indicating overload cutout emergency on second belt;
9. LED indicating safety bar emergency;
10. LED indicating pressure drop in hydraulic circuit;
11. LED idicating overload cutout emergency on first belt;
12. LED idicating overload cutout emergency on third belt;
13. LED idicating overload cutout emergency on fifth belt;
14. LED indicating overload cutout emergency on table raising/lowering;
15. LED indicating overload cutout emergency on vacum table;
16. LED indicating upper emergency knob;
17. LED indicating thermal relay emergency on motorized blowers;
18. LED controlling the electronic CHECK CONTROL system. When the button is pressed, all CHECK CONTROL leds and the buzzer are enabled;
19. Auxiliary led to be used for further devices not indicated in the CHECK PANEL such as e.g. safety bar emergency on shoe pressers.

4.2.2 Pneumatic unit and timed blowers

This unit is fitted on the Prima 630 and PRIMA 970 machines, when these are controlled by the switch panels (see Fig. 'Switch panel width 630' page 46) and (see Fig. 'Switch panel' page 46).

NOTES: The pneumatic blowers or timers of the SMART 1100 - CONCEPT - PROJECT - EXECUTIVE lines (and of the PRIMA 630 and 970 lines when controlled by the button panel are located in the spaces between the buttons 14/ 18 (see Fig. 'Button panel to be installed on all models' page 47).

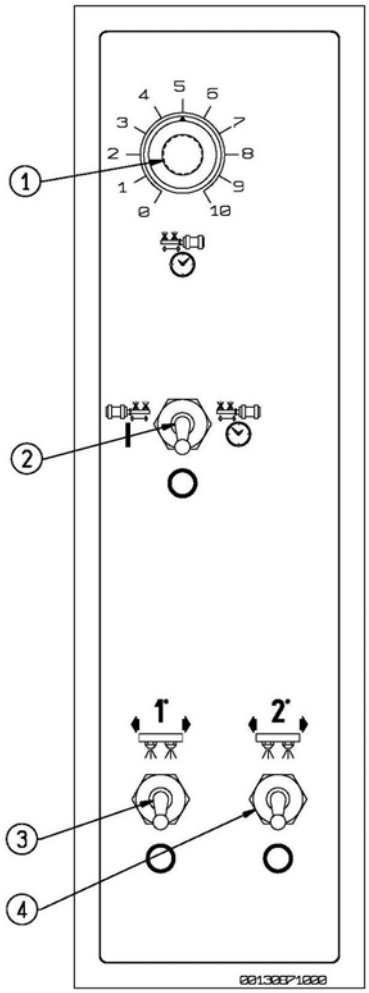


Fig. 4.5 Pneumatic and timed blower control unit

1. Switch for the enabling of individual blower assemblies on the belts supplied;
2. Switch for the timed enabling of blower assemblies synchronized with panel machining under the sanding belts;
3. Timer for enabling and disabling blower on the 1st belt, if installed;
4. Timer for enabling and disabling blower on the 2nd belt, if installed.

4.2.3 Inclusion/exclusion pneumatic roller

This unit is fitted on the Prima 630 and PRIMA 970 machines, if the roller is pneumatic adjustable. If the roller is pneumatic, but this plate is not installed, the roller is controlled by the electronic control panel.

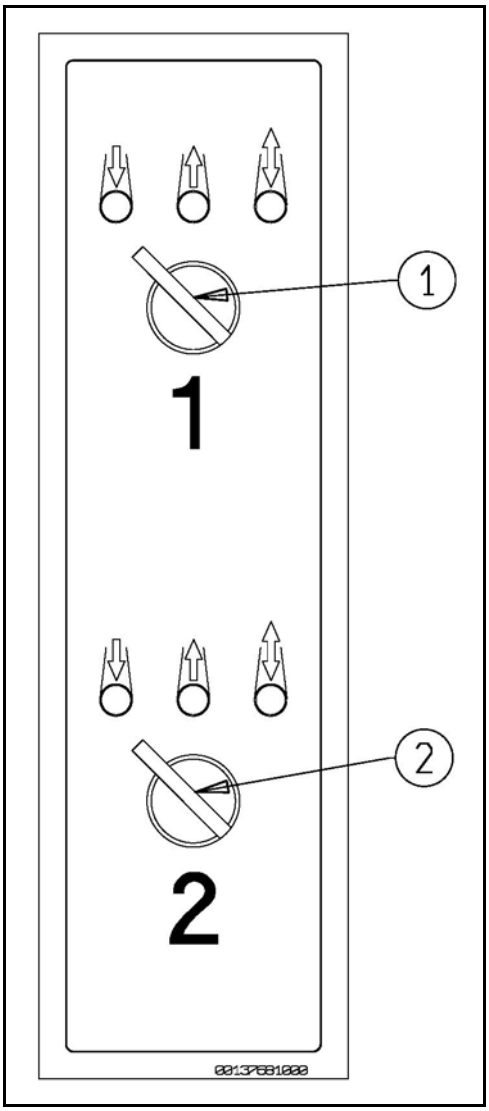


Fig. 4.6 Plate inclusion/exclusion roller

1. Switch for positioning the single/1st unit. When the switch is on left side, the roller is engaged (the roller also remains engaged when the motor is off. This permits adjustments). When the switch is on central side, the roller is disengaged (it remains disengaged also when the motor is switched-off). When the switch is on right side, the timed engagement of the roller occurs (the roller engages when the motor of the relevant unit is started and switched from star to delta. When the motor is turned off or the machine is in emergency mode, the roller returns to disengaged position).
2. Switch for positioning the 2nd unit. When the switch is on left side, the roller is engaged (the roller also remains engaged when the motor is off. This permits adjustments). When the switch is on central side, the roller is disengaged (it remains disengaged also when the motor is switched-off). When the switch is on right side, the timed engagement of the roller

occurs (the roller engages when the motor of the relevant unit is started and switched from star to delta. When the motor is turned off or the machine is in emergency mode, the roller returns to disengaged position).

4.2.4 Pneumatic pad/timed roller control unit

This electronic unit is placed on the control panel when the synchronised pneumatic pad unit is fitted. If there is also a timed roller, an identical one is fitted to permit control. For this reason, below is a list of specifications referring to the buttons for operating the pad and/or roller.

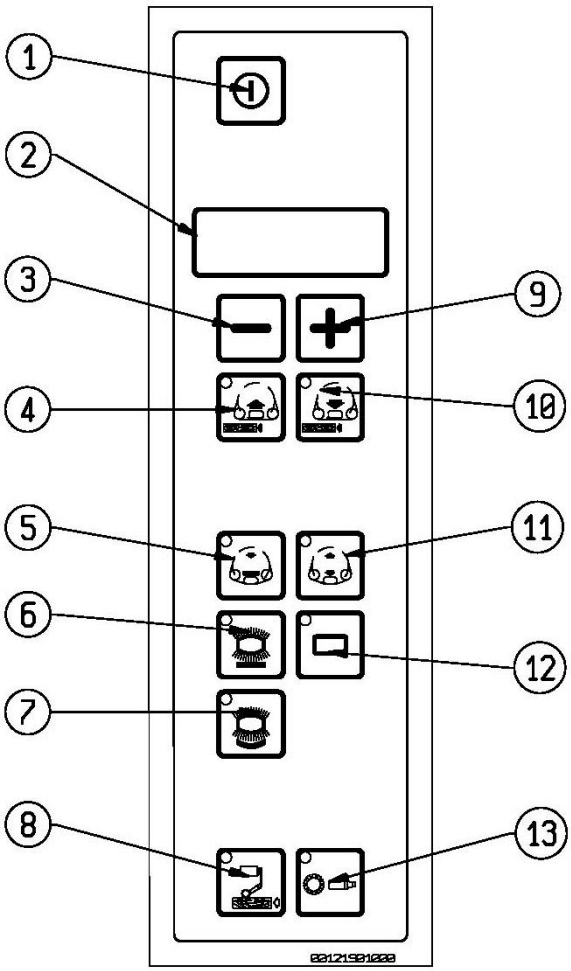


Fig. 4.7 Pneumatic pad and timed roller control unit.

1. Start/stop switch of pad control unit;
2. Multi-function display according to adjustment (the piece-counter is enabled during processing). Push buttons 3 and 9 at the same time to reset;

3. See para. 4;
4. Press button together with button no. 9 to delay with no. 3 to anticipate pad elevation and/or roller;
5. Pushbutton of rigid pad/roller. The pneumatic pad/roller is lowered by a pneumatic cylinder;
6. Pushbutton of straight pneumatic pad with inflated air chamber. (Suggested pressure 0.3 bars). The key is not enabled in the roller unit;
7. Pad selection key with precurved inflated inner tube. The key is not enabled in the roller unit;
8. LED signalling the correct operation of the control microswitch;
9. See para. 10;
10. Press button together with button no. 9 to delay with no. 3 to anticipate pad lowering and/or roller;
11. Timed pad/roller button. The pad unit and/or roller lowers and elevates by means of a pneumatic cylinder synchronized with the belt speed;
12. Rigid pad button. The key is not enabled in the roller unit;
13. LED signaling correct pulse-counter probe operating.

4.2.5 Pad air pressure adjustment panel

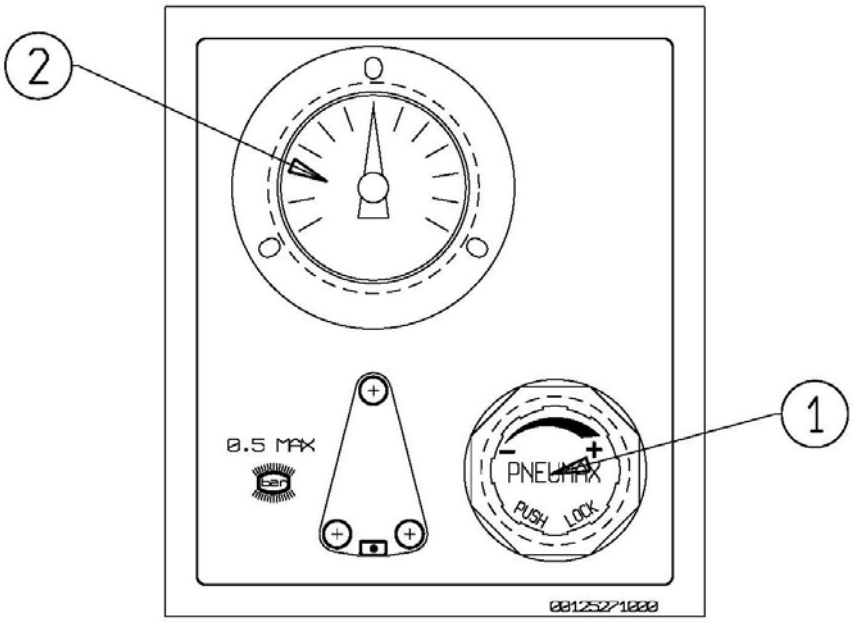


Fig. 4.8 Pneumatic pad pressure panel

1. Pneumatic pad air pressure regulator;
2. Manometer showing pneumatic pad air pressure.

NOTES: The pressure recommended for using the pneumatic pad is 0.3 bar. This can be changed by means of adjuster (2). The setting is shown on pressure gauge (1).

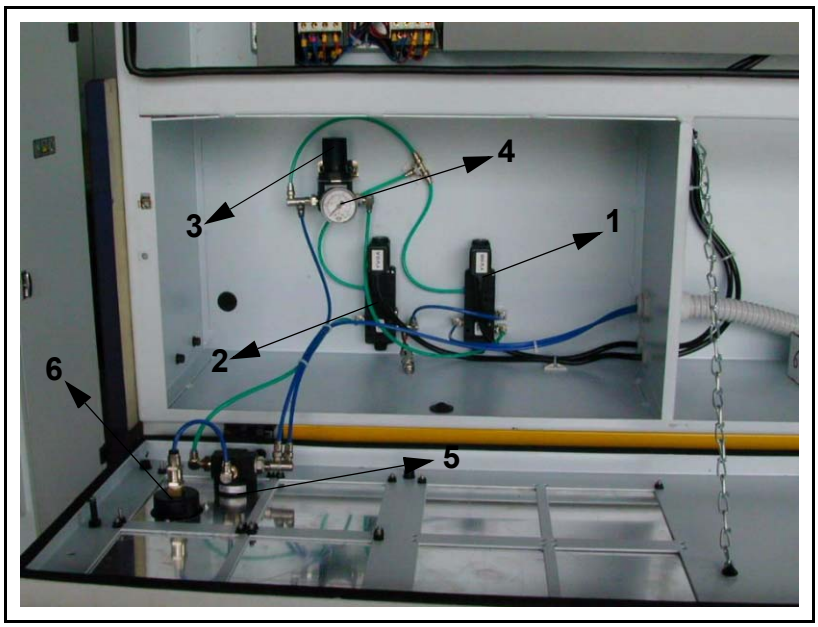


Fig. 4.9 Pad solenoid valves a+b

1. 5-way solenoid valve;
2. 5-way solenoid valve;
3. Rigid pad pressure regulator (1 bar);
4. Pressure gauge showing pressure of rigid pad (1 bar).

4.2.6 Air pressure regulation panel of 30/40/60-section pad

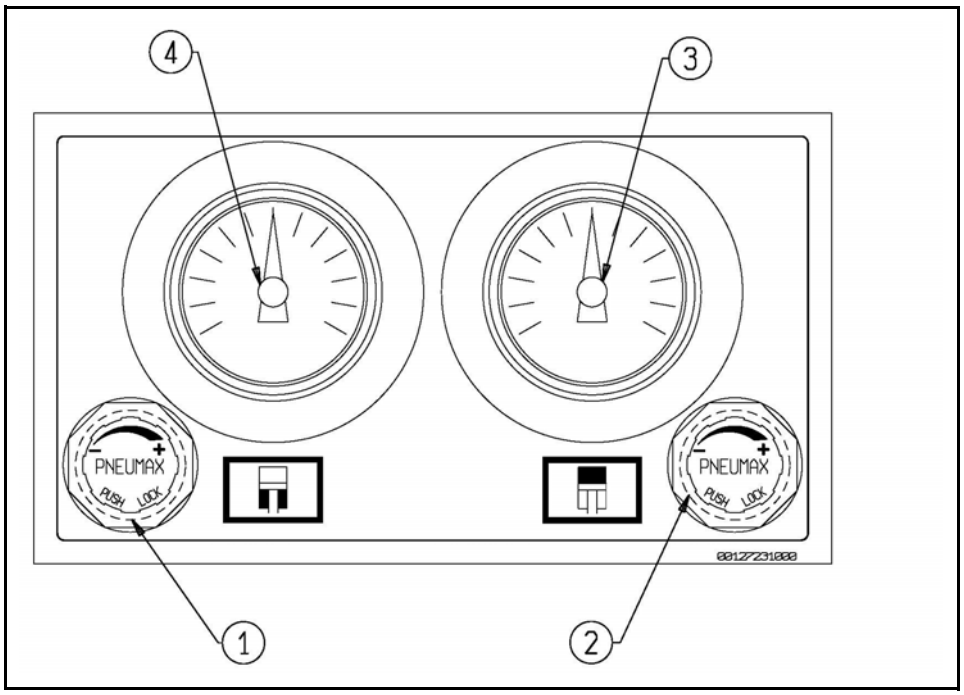
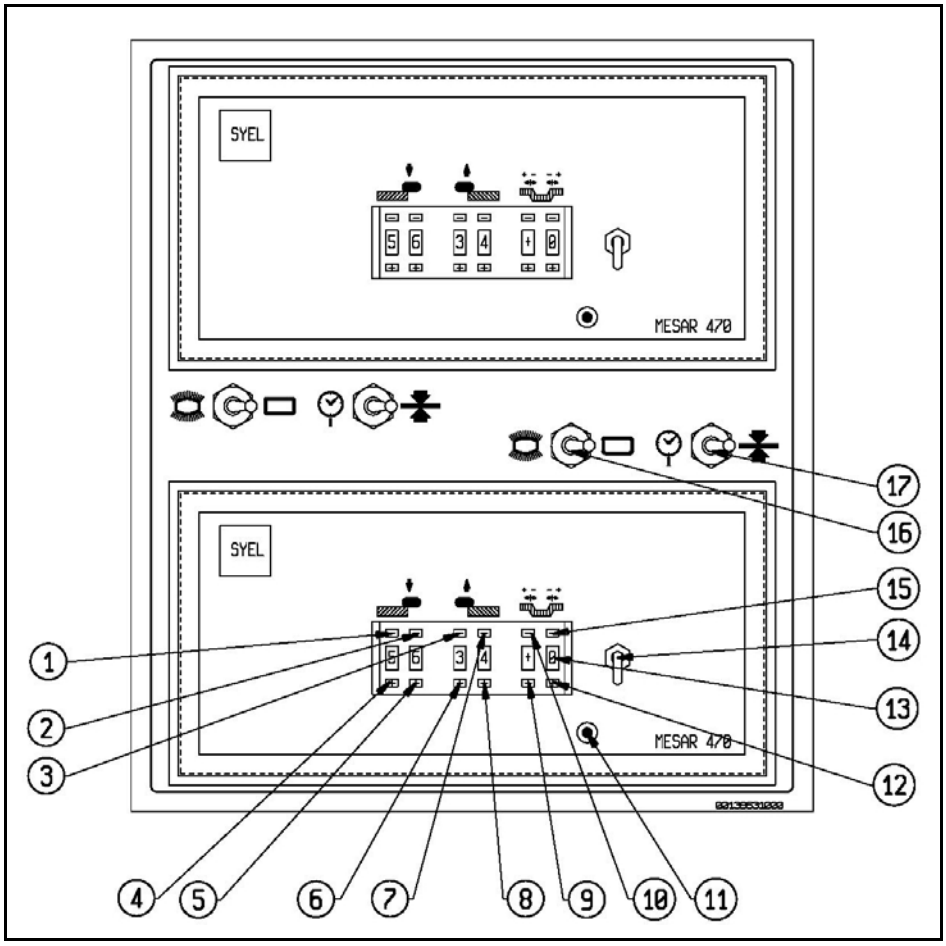


Fig. 4.10 Sectioned pad pressure panel

1. Air pressure regulator. (Pressure is normally 0.5 bar);
2. Working section air pressure regulator. By increasing or decreasing air pressure, sector working pressure is adjusted ;
3. Manometer showing working section air pressure ;
4. Manometer showing air pressure value. (Pressure is normally 0.5 bar).

4.2.7 24 section pad control unit



1. Work entry time reduction button;
2. Work entry time reduction button;
3. Work exit time reduction button;
4. Work entry time increase button;
5. Work entry time increase button;
6. Work exit time increase button;
7. Work exit time reduction button;
8. Work exit time increase button;
9. Button for selecting the sector work position (inside or outside) with + the sectors work outside the piece;
10. Button for selecting the sector work position (inside or outside) il - with - the sectors work inside the piece;
11. Button for selecting the sector work position (inside or outside) with + the sectors work outside the piece;
12. Button for selecting the sector work position (inside or outside) with + the sectors work outside the piece;

13. If “0” is selected, the pad copies the same width of the panel to be sanded. If “7” is selected, the pad operates as full pneumatic. Positions “2” to “6” are therefore intermediate
14. Unit on/off switch;
15. Button for selecting the sector work position (inside or outside) il - with - the sectors work inside the piece;
16. Rigid or pneumatic pad selection switch
17.- (higher) with rigid pad, the sectors operate
18.- (lower) with pneumatic pad, the sectors do not operate
19. Switch pushed to low position; so pad works remains in fixed work position. Switch pushed to high position so pad works in timed sequence.

4.2.8 30/40/60-section pad control unit

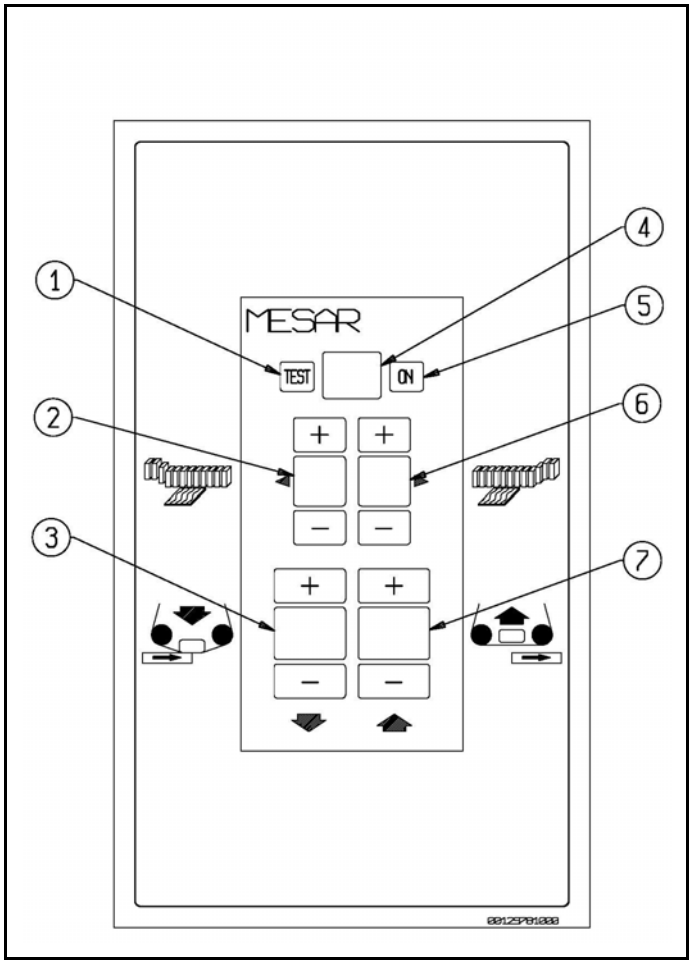


Fig. 4.11 30/40/60-section pad control unit

1. Test switch (used to verify the corret functioning of the electronic board).
2. Keys to extend or to reduce the width of work sections ;

Attention: the pad works all over the width of the piece like a pneumatic pad (0-0). The unit pad does not work inputting negative values on work-pieces. See page with reference MESAR;

3. Correction key from the point of pad engaging, with reference to the ideal point. According to working requirements it is possible to delay or anticipate the activation. Inserting positive values there is a delay, inserting negative values there is an anticipation;
4. Display indicanting the table speed gear;
5. Switching off/on switch;
6. Keys to extend or to reduce the width of work sections.
   Attention: the pad works all over the width of the piece like a pneumatic pad. Readout by means of a special scanner bar located at the front of the machine (0-0). See page with reference MESAR;
7. Correction button from the point of blade elevation with reference to the ideal point. As stated before, by inserting negative values there is an anticipation,by inserting positive values there is a delay.

Mesar control allows to increase or to reduce activation area of pad unit, with reference to the actual width of the work piece. Setting the following figures on the display indicated by 3 and 4 numbers, 0/+1/+-3/+-5/+-7 the result is as follows:

- 0 = simultaneous start of all sections with work pieces of any size (complete pneumatic pad);
- +1 =actual piece reading;
- +3 = enlarges the reading field of a section to the right or left starting with actual piece reading;

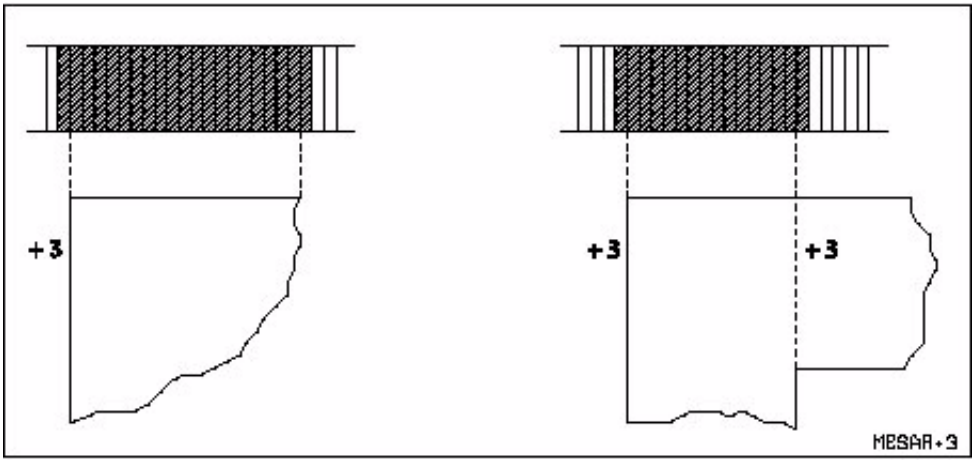


Fig. 4.12 Example with display unit set on +3

- - 3 = reduces the reading field of a section to the right or left starting with actual piece reading;

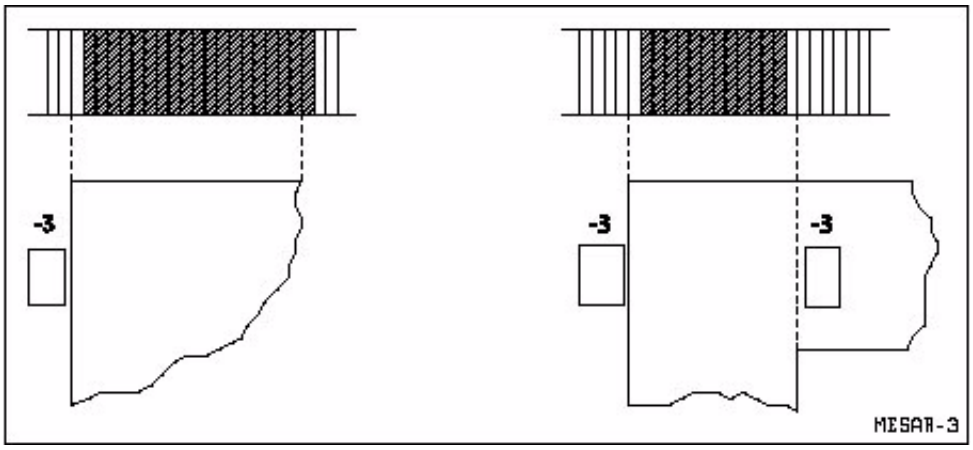


Fig. 4.13 Example with display unit set on -3

- +5/-5 like +3/-3 but with 2 sections instead of 1;

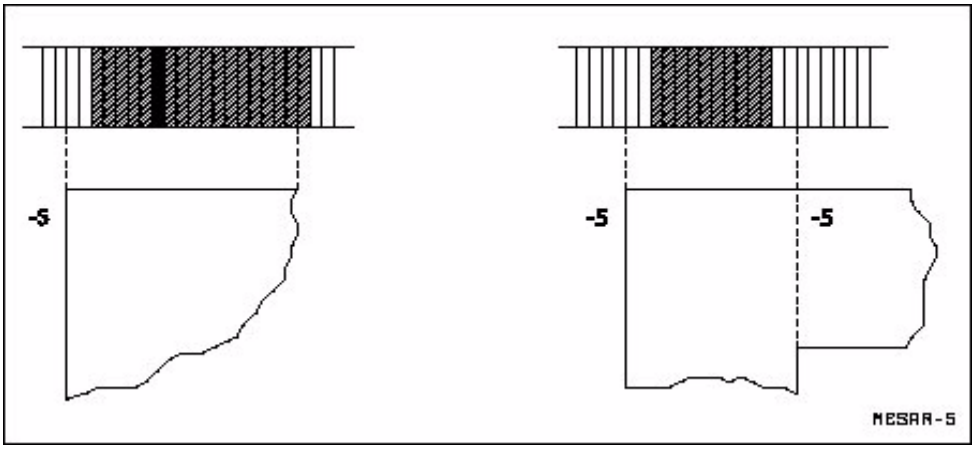


Fig. 4.14 Example with display unit set on -5

- +7/-7 like +3/-3 but with 2 sections instead of 1.

4.2.9 Adjustment of the display

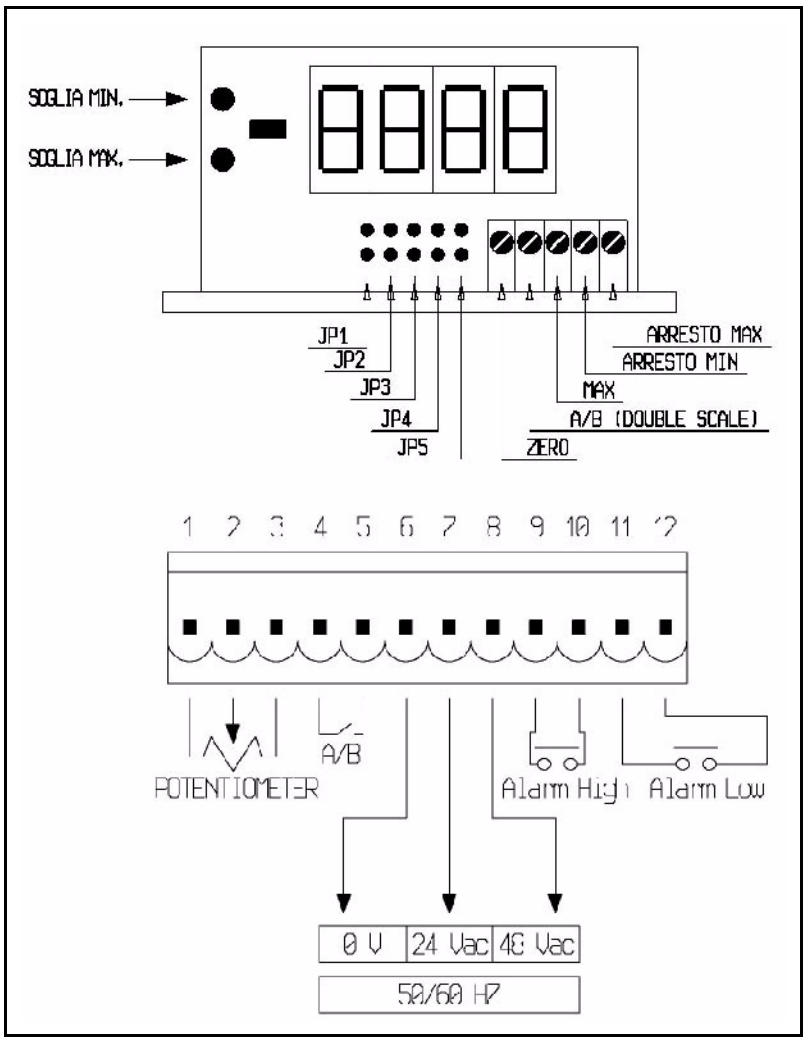


Fig. 4.15 Display

Important: in the event of the digital indicator (optional) being fitted to the machine (see Fig. 'Digital electronic positioner' page 67).

To reprogramm the digital indicator if it doesn't work properly, or for any replacement or various reasons for damage see chapter "FAULTS: TROUBLESHOOTING".

1. Assembly an 80 grain belt on the first group and stretch it;
2. Start the conveyor belt;
3. Lift the table up until it touches the sanding belt . Stop the feed belt and holding it with two hands you must be able to make it turn, if this does not, lower the feed belt and raise the table to the correct height. N.B. The electric lifting does not work if the display indicates a value lower than 3 mm. which is the minimum working value, at a higher value, the electrical

travel end is operated, therefore, when this value is reached, it needs to be used manually, at the handwheel indicated by (A) (see Fig. 'Adjustment handwheel' page 64).

4. Set zero on the regulator indicated with 'ZERO', when the display shows 'zero,' raise the table with measuring instrument (gauge, etc.) taking number for example 100, lower the table for the whole run, see page "TECHNICAL CHARACTERISTICS", at this point take note of the new value of the same preceding position, and deduct from this the first noted value, the example result of 180 should be set using the regulator indicated with Max,and at the same height set the travel end using the regulator indicating with Stop max until the Alarm High light does not light up.
5. Now the table needs to be brought to height until the display shows about 003.0 and therefore using the regulator indicated with Stop min a superior travel end is set until the Alarm Low light does not light up. By means of the A/B Double Scale regulator the display is able to obtain and signal a different working value, which is useful when one group must be used excluding the other.

If, after the above operation, the display continues to show wrong dimensions, it means it needs to be reprogrammed. If in spite of reprogramming, dimensions displayed are wrong, either the potentiometer or the display are to be replaced.

4.2.10 Mechanism for the elevation and lowering of the work table

The elevation and lowering of the work table or the head unit takes place in three ways:

- By the button or switch placed on the control panel, it is used for normally high (fast) movements;
- By means of the handwheel indicated by (A) (see Fig. 'Adjustment handwheel' page 64) placed on the motor-reducer, this allows centesimal movements;
- By means of positioning devices (normally optional) of the working table (thckness, automatic or semi-automatic).

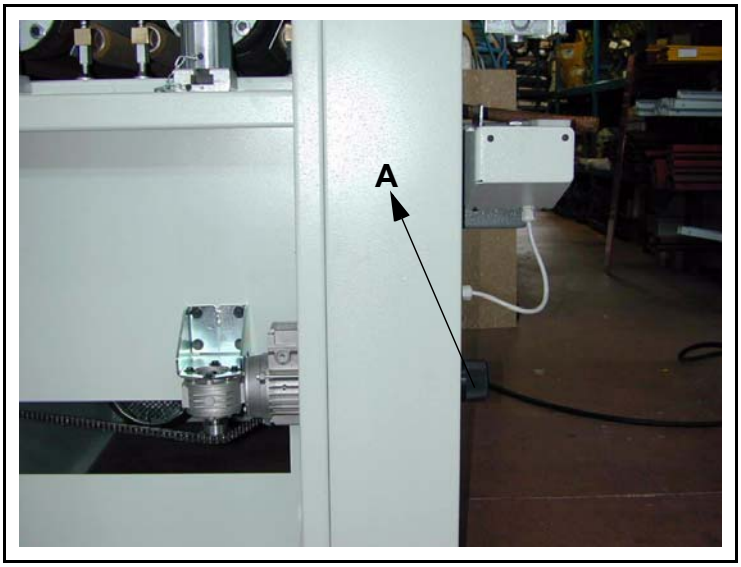


Fig. 4.16 Adjustment handwheel

NOTE: The positioning of the working dimensions is always carried out moving it from up to down; for a perfect aligning it is necessary that centesimal clearances are reached.

As regards positioning of the head unit, alignment can be achieved by moving the unit in a top to bottom direction.

4.3 THICKNESS POSITIONING

The three types of table indicators shown below can be fitted, on request , on all machine models. The only exception is the table positioning micro, fitted as standard starting with the SMART 1100 line, unless other indicators are specified when ordering.

4.3.1 Tickness positioning of the table equipped with microswitch

Place the piece to be machined on the worktable in such a way that the piece is positioned under the microswitch (V) (see Fig. 'Microswitch' page 65).
Raise the table (or lower the head unit) electrically using the appropriate control.This will stop when the workpiece comes into contact with the microswitch. At this point the reached value is of a few decimals of mm lower than the contact line.
Decide the removal value on the piece and reach it using the manual handwheel of the elevation button.

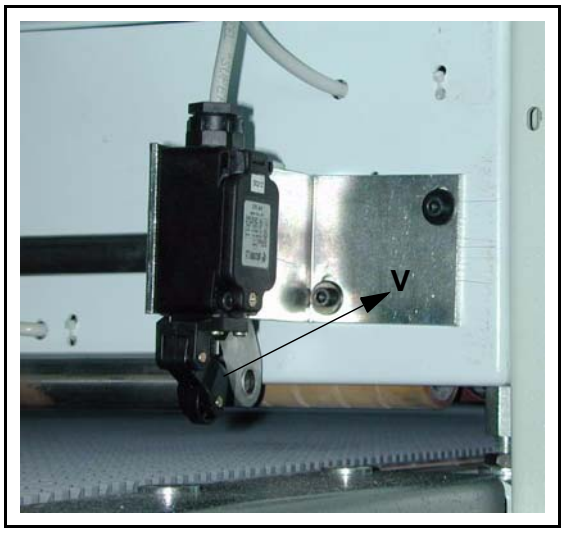


Fig. 4.17 Microswitch

4.3.2 Electronic digital positioner with grain compensation

To automatically position the table or head unit, follow these instructions:

a) Press button **2**;

b) Set the dimension of table or head unit positioning;

> **IMPORTANT**: key **3** changes the flashing figure, while key **4** selects the figure to be changed (the figure to be changed is the flashing figure). Finally, by means of key **5,** the flashing figure setting can be reset

c) Once to desired dimension has been achieved on the display, press key **2** and select the type of grain required;

d) Keys **3** and **4** scroll the sanding grain figures backwards and forwards. These go from 40 to 440;

e) Once the sanding grain has also been set, press key **2**. At this point "**START**" appears on the display;

f) If the set figures are correct and there is no object on the table (thereby preventing these being crushed and broken) the table (or head unit) can be positioned by means of button **1**;

g) To reset the figures on the other hand, press key **2** and repeat the operation.

> **NOTE**: If you want to change the sanding grain type only, simply change the grain figure, without changing table or head unit positioning. The control unit will automatically compensate the grain difference.

4.3.2.1 How to reset the electronic positioner

1. Move th belt into contact with the roller with GRAIN 80;
2. Press **[I]** and reset GRAIN with **[CLR]**;
3. Press at the same time **[+]** and **[CLR]** for 5 seconds;
4. By means of buttons **[+]** and **[-]** find **(POS.L)**;
5. Press **[I]** and set 0,7 with [+] and **[-]**;
6. Press **[-]** to confirm;
7. Press **[+]** and **[-]** to find **(POS.H)**;
8. Lower the table to height 155 mm by pressing button "**6**" to low on first speed or pressing button "**7**" to low on second speed;
9. Press **[I]** and enter 155.7;
10. Confirm with **[I];**
11. Press at the same time **[-]** and **[CLR]** for 5 seconds to exit;
12. Press **[I]** and set GRAIN 80;
13. Move the table to height 100 by pressing button "**8**" to raise on first speed or "**9**" to lower on second speed. Now set a new height on the display. Carry out normal work operations, set a new value on the display and set a new value to carry out work.

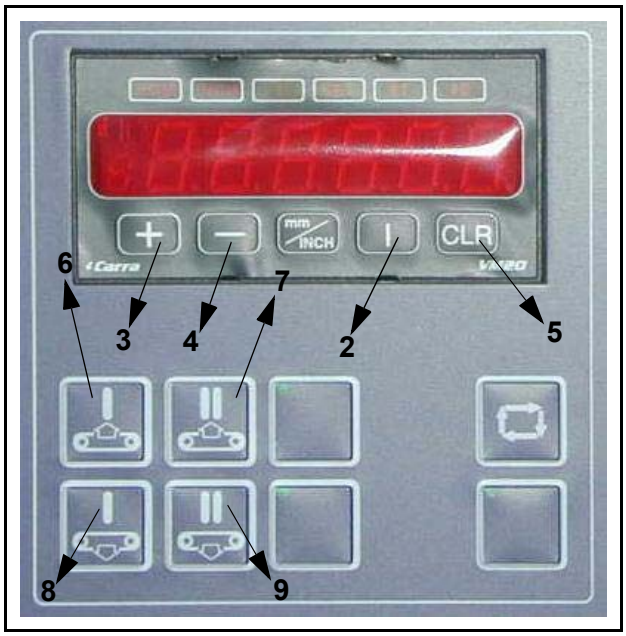


Fig. 4.18 Digital electronic positioner

4.3.3 Automatic tickness positioning of the table

The device is placed on the front of the left hand side of the belt table. It allows a fast and easy positioning of the table, both during operations with short workpieces and with extremly long ones.
If the table is at a height which permits the passage of the workpiec, place it on the rest indicated by **(P)** eand push it against the lever **(G)**. The latter will cause table elevation until the workpiece gets into contact with tracer point indicated by **(M)**, this setting the table at the preset thickness, programmed beforehand by means of keyboard **(L)**. If instead the workpiece is thicker than the operative height of the table, isimply push the part indicated by **(C)** this causes the table to drop, and release when this reaches a height providing access under the feeler **(M)**. At this point repeat the above operation in order to obtain the already preset working height.
NOTE: The tracer point **(M)** works as height regulator, the latter should be preset beforehand by means of handwheel indicated with **(L)** with reference to plate **(Q)** and plate **(R)**.
With regard to removal, by turning the hanwheel **(L)** clockwise, first operating unit removal is increased. If the handwheel is turned anticlockwise, unit 1 moves away from the cutting edge, so that only units 2 and 3 can be operated (roller and pad).

4.3.3.1 Grain compensation function

For the sake of greater clarity, suppose we have fitted a GRAIN 80 belt. The two plates will have to be placed as shown in the illustration (the arrow of plate **(Q)** on number 80 of grain **(R)**).

Similarly, with a different grain, the arrow of plate **(Q)** must conform with the grain number of the belt of plate **(R)**.
NOTES: Always keep the support unit **(P)** perfectly clean and in good order to prevent any malfunctions.

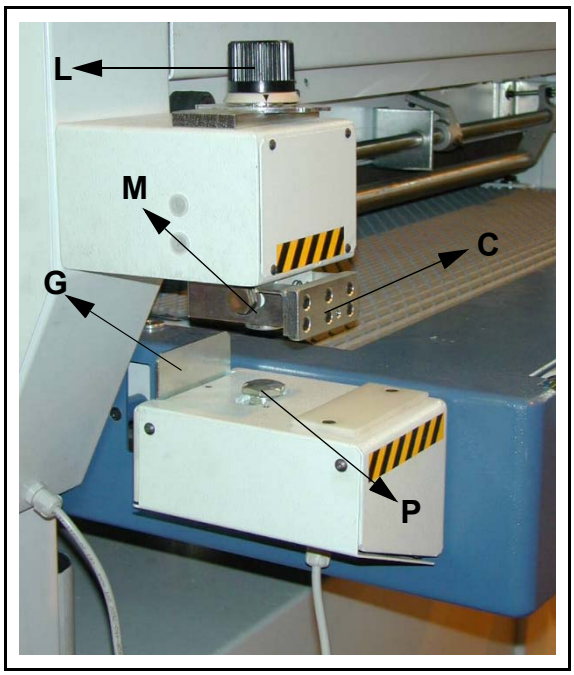


Fig. 4.19 Positioning table with nonius

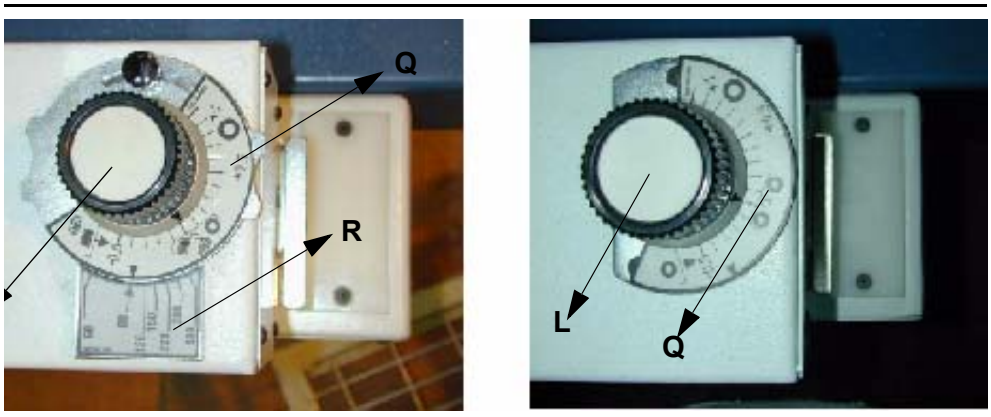


Fig. 4.20 Installed positioning units

4.4 REGULATING THE FEED BELT SPEED

Version of feed conveyor belt with two fixed speeds obtained by a motor reducer unit with endless screw controlled by the control panel.
The two speeds vary according to the type of machine, the first goes from 4.5 to 6 m and the second from 9 to 12 m.

Version with variable speed feed conveyor belt, obtained by an epicyclic motor reducer unit in oil bath.
NOTE: The speed variation must be carried out only with the unit on, that is, with the conveyor belt moving. It is clear that a machine equipped with speed variation allows a wider and safer use on the pieces to be worked.
To regulate the feed belt, use the motor variator placed at the back on the right side of the machine, using the handwheel gradually: Turning it in a clockwise direction, the speed is reduced, turning in an anticlockwise direction, the speed is increased.

The speed choice dependson the type of work to be carried out:
- From 4 to 9 m/min. to size AGGLOMERATES, SOLID woods ecc.;
- From 8 to 12 m/min. to sand SOLID, VENEERED and LAMINATED woods;
- From 10 to 16 m/min. to sand VARNISHED SURFACES.

Version with variable feed conveyor belt speed obtained by motorvariating reducer, equipped with servomotor, remote control and a digital speed indicator placed on the control panel .
All of the remaining characteristics are not altered.

Version with variable feed conveyor belt speed obtained by motor reducer, a frequency drive and a digital speed indicator placed on the control panel allowing variation of control.
All of the remaining characteristics are not altered.

4.5 DRIVING BELT TENSION

(See chapter “Periodical m aintenance” par. “Driving belt tension”).

4.6 QUALITY OF SANDING BELTS

The sanding belt is the tool of the machine. Always buy good quality sanding belts in good time and in the quantity you need. The list below shows, for each type of available grain, the most suitable belt for the job to be done:

- **grain 60-80** for sizing;
- **grain 100-150** for sanding rough, solid and venereed woods;
- **grain 150-240** for initial coats of paint or poliurethane varnishes;
- **grain 280-360** for sanding polyester varnishes.

Tab. E: Abrasive belt dimensions

LINE	WIDTH in mm	LENGTH in mm
PRIMA 630	650	1900
PRIMA 970	990	1900
SMART 1100	1130	2200

Tab. F: Abrasive belt dimensions

LINE	WIDTH in mm	LENGTH in mm
CONCEPT 1100	1130	2620
CONCEPT 1350	1380	2620
PROJECT 1350	1380	2620
EXECUTIVE 1320	1350	2620

Correct storage of sanding belts is essential for top performances to be reached. The belts must therefore be kept sealed in their original wrapping (humidity at 35/50%, at a constant temperature of about 20°C).
The belts should not be fitted on the machine as soon as they are taken out of their original packaging, or after remaining for some hours in very damp or dry environments. The belts should be removed from their wrappings some hours before use and left near the machine on the support provided, to allow them to adapt to the working conditions
The drawing (see Fig. 'Sanding belts' page 71) shows this support in the "wall" position which is the simplest.

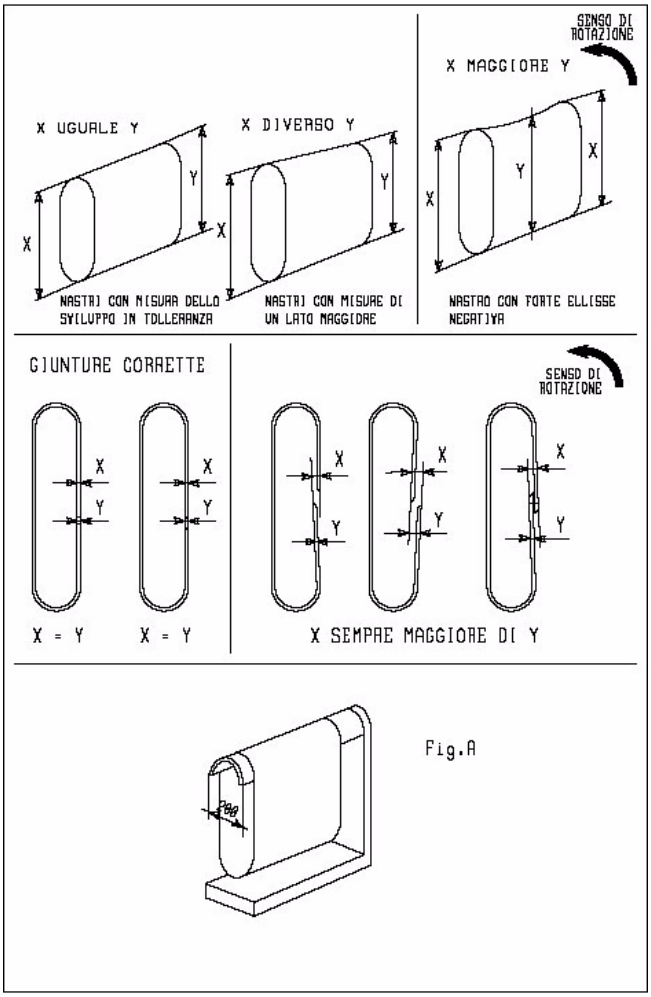


Fig. 4.21 Sanding belts

NOTE: Should a belt tend to move out of place before regulating the system, it needs to be replaced with a new one (see Par. 'Sanding belt replacement' page 74) if this still comes out of place, the system can be regulated.

4.6.1 Sanding belt centering and traverse

The sanding belt traverse is carried out by means of a mixed system consisting of optronic and electro-pneumatic components, essentialy based on: infrared photoelectric cell, static relay amplifier, 5-way solenoid valve and double effect pneumatic cylinder; they work in the following way:

- The sanding belt (H) moves from right to left, thus allowing the infrared ray emitted from projectors (2) (see Fig. 'Phocell unit' page 72), which transforms it into an electrical signal and sends it to the amplifier unit (C).

- The signal given by projector (2) allows the changing over of the compressed air passage onto the pneumatic cylinder (E), which alternately moves the belt tensioning idle roller (F).

A swinging movement is thus obtained that makes it possible to keep the belt in the right position
In the event of the swinging system not working properly and not therefore keeping the belt in the right position, before this comes out of its housing, the side photocells are triggered, thus stopping the machine. At this point, the system must be checked as indicated below:

a) Stop the machine movement and place the machine in **START** position, letting the pneumatic feeding open;

b) Move the sanding belt towards the inlet part and let it be stack;

c) Accurately clean the area with compressed air;

d) Check and if necessary clean the caps of sensors (1,2 and 3);

e) Make sure that lubricated air reaches cylinder (E) and that the latter is not locked due to this failure, or because the sealing rings are wom. In this case, it is necessary to change them or to change the whole cylinder;

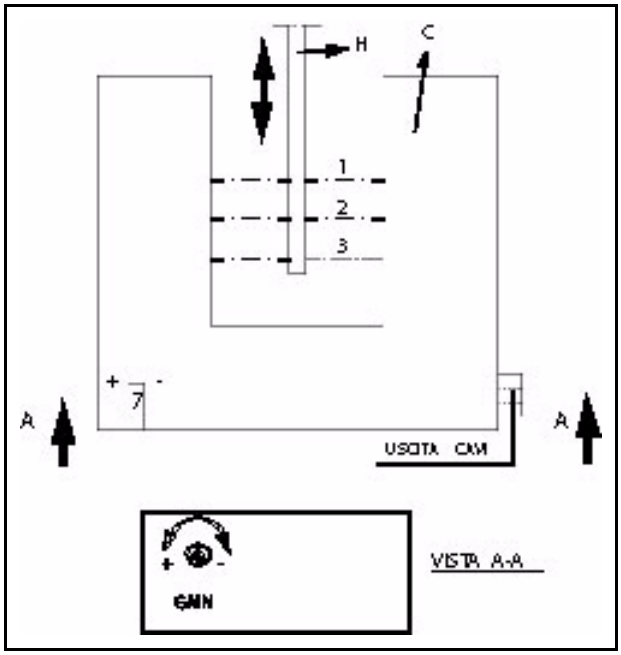


Fig. 4.22 Phocell unit

f) Moreover, check that air comes out of chokers (Z1) and (Z2). Infact it may happen that, due to little use of the machine and dirty compressed air, a partial closing of the holes is brought about, this preventing the correct working of cylinder (E), which must have a uniform movement either in one direction or in another. This speed is

regulated by the chokers (Z1) and (Z2) alternating the tester on the amplifier unit (C), when the machine is off and with slack belt. To regulate the amplifier unit (C), a sensor tester will be supplied which should be used for their sensitivity, the later may be varied by means of the appropriate regulators (7) (see Fig. 'Phocell unit' page 72) placed at the back of the belt traverse device (C).

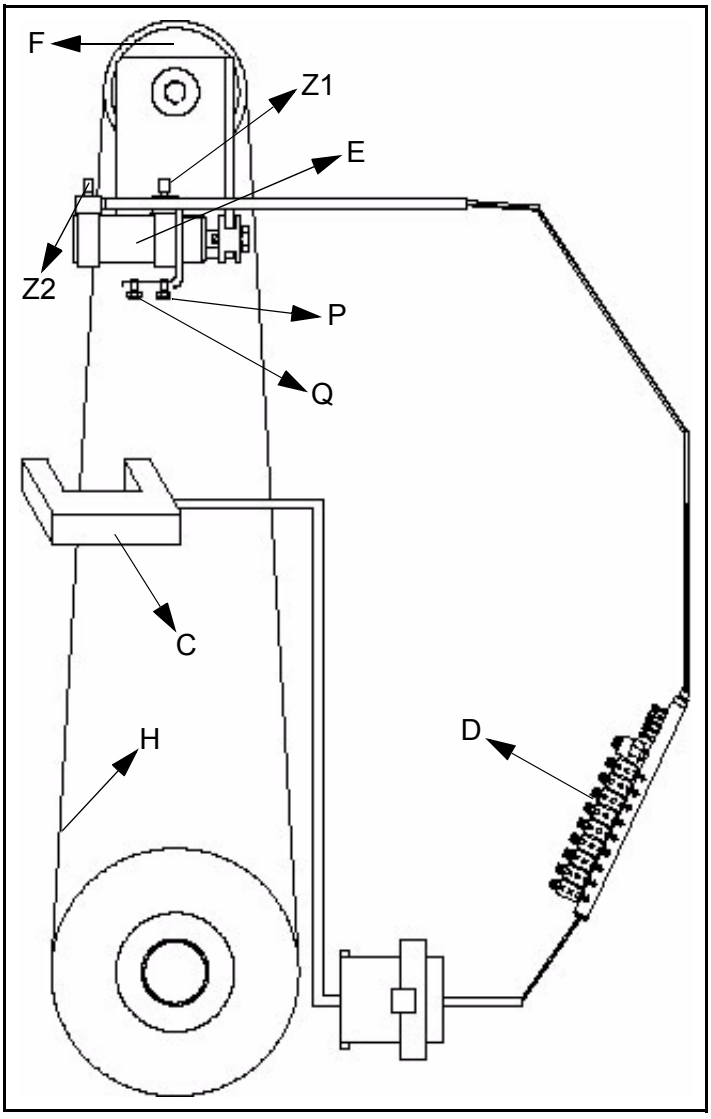


Fig. 4.23 Photoelectric cell adjustment

g) By placing the sensor tester between the projectors and turning the regulators by a screw driver towards (+) o (-), the ray intensity is adjusted which must not pass beyond the special tester. The ray intensity is adjusted which must not pass beyond the special tester, ptherwise, it would not be able to "read" the sanding. Likewise, the ray should not be too weak as it would not be able to reach the reciever. Correct regulation is obtained by adjusting the ray so that it does not pass the special tester more than a little;

h) At this point, if everything is in order, alternately pass the special tester between the sensors and make sure that all the three are working properly. If cylinder (E) does not make its stroke, or if it does not move, the cause is connected to the faulty working of the solenoid valve (D) or of the amplifier unit (C);

i) If cylinder (E) works properly, fit the belt in the right position and strech it;

j) Start the motors for a few seconds, and then check whether the oscillation of roller (F) and the belt traverse (H) are carried out softly and at a regular speed in both ways. **NOTE**: Belt oscillation per minute: min. 55 - max. 70;

k) If the belt still tends to come out at one side, or if it remains in its place but the movement on one side is faster than on the other side, the two screws (P) and (Q) need to be loosened when the machine is working and the cylinder (E) needs to be moved until the oscillation becomes regular and the belt movements have a uniform speed. Re-tighten screws (P) and (Q).

l) If after these operations, and a correct functioning of the other parts, the sanding belt tends to still come out of place, it needs to be taken out because it is faulty.

4.6.2 Sanding belt replacement

When the belt is normally worn, or if it should happen to break, it must be replaced. Proceed as follows (see Fig. 'Sanding belt replacement' page 75) :

1. Place the lever on the front to OFF so that the upper belt-tensioning roller can be lowered; then loosen the handle and remove the adjustable transversal bel -support from its housing;
2. Extract the sanding belt, so that the side indicated on the inside of the belt complies with the direction of the red arrow on the front.
3. Reinstall the adjustable transversal belt-support so that the red reference point is directed upward towards the outside, and then tighten the handle thoroughly;
4. Set the front lever to ON position so that the upper belt-tensioning roller is raised.

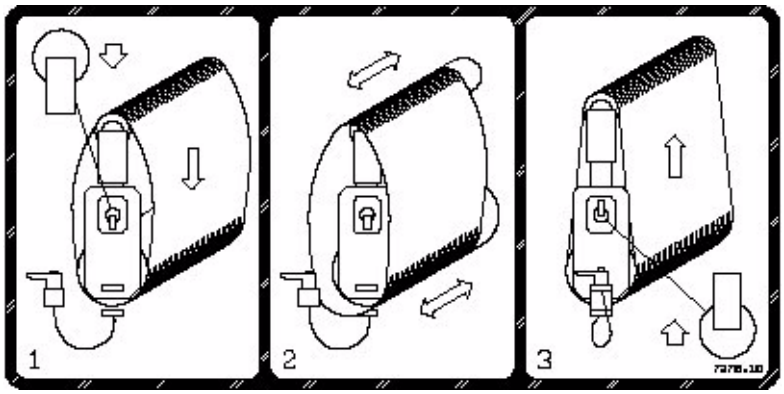


Fig. 4.24 Sanding belt replacement

4.7 INSTALLED UNITS ON THE MACHINES

4.7.1 Roller units

A) Adjustable support extractable from the trasversal belt holder;
B) Locking handle for the blockage of the trasversal belt holder;
C) Pneumatic switch with 2 positions ON-OFF for belt tensioning;
D) Locking handle for manual positioning of the roller;
E) Locking handle for locking of the roller positioning bar;
F) Pointer;
G) Scale indicating material removal;
H) Manual ON/OFF device of the roller;
I) Micrometer knob for removal adjustment;
J) Electropneumatic device for roller ON/OFF;
K) Pneumatic pressure reducer for belt tensioning;
L) Pneumatic switch with 2 positions ON - OFF for belt tensioning;
M) Pneumatic pressure gauge indicating the tensioning pressure of the belt.

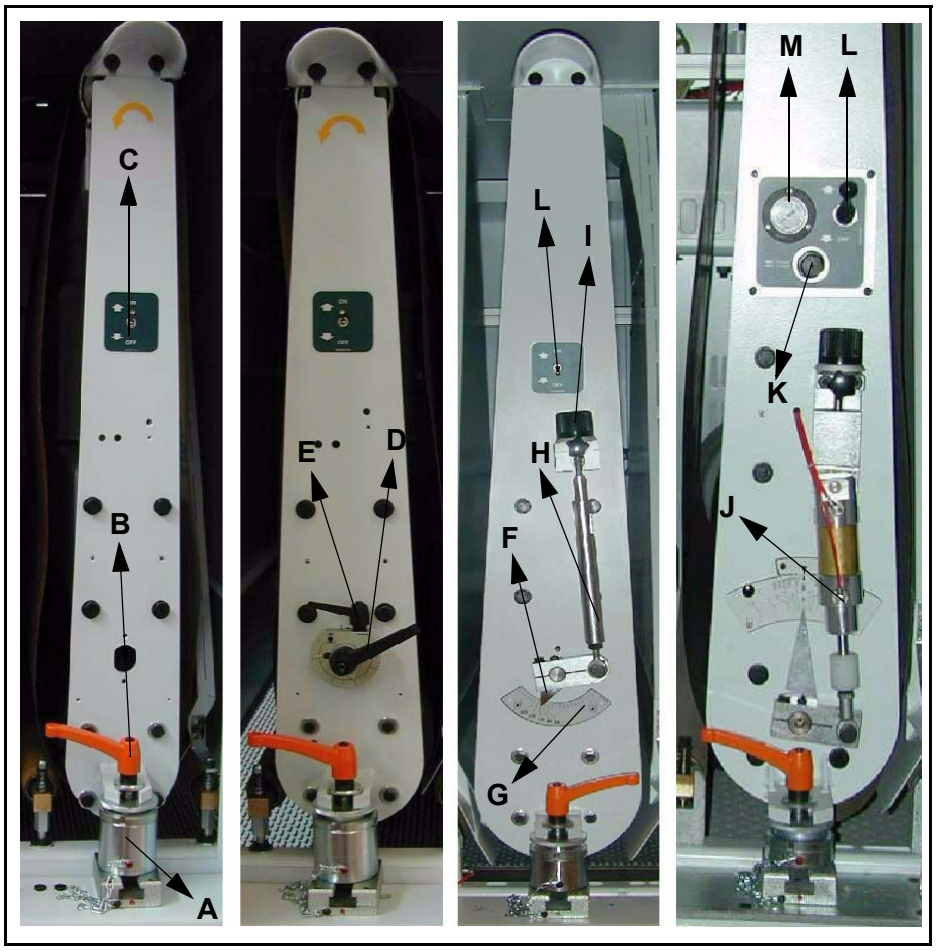


Fig. 4.25 Available roller configurations

4.7.2 Pad units

A) Adjustable support extractable from the trasversal belt holder;
B) Locking handle for blockage of the trasversal belt holder;
C) Pneumatic switch with 2 positions ON-OFF for belt tensioning;
D) Locking handle for manual positioning of the pad;
E) Locking handle for locking of the pad positioning bar;
F) Pointer;
G) Scale indicating material removal;
H) Manual ON/OFF device of the pad;
I) Micrometer knob for removal adjustment;
J) Electropneumatic device for pad ON/OFF;
K) Pneumatic pressure reducer for belt tensioning;
L) Pneumatic switch with 2 positions ON - OFF for belt tensioning;
M) Pneumatic pressure gauge indicating belt tensioning pressure;

N) 30/40/60-section electronic pad controlled by control unit .

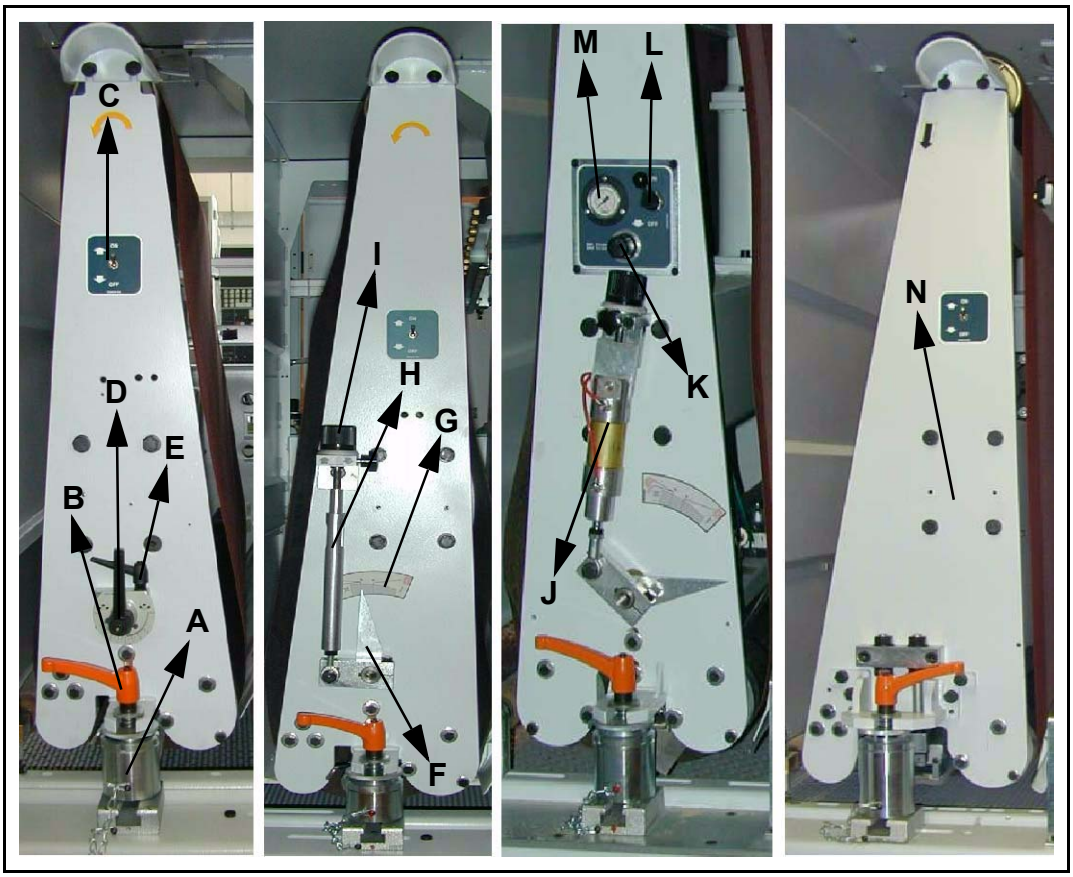


Fig. 4.26 Available pad configurations

4.8 RULES FOR USING THE ROLLER UNIT

4.8.1 Selecting the steel roller

The steel calibrating roller with 45° helical grooves is suitable in the following cases:

- Greater precision on soft wood panels, but with well spaced and hard grains as well as knots;
- Removal of large quantities on chipboard panels using fabric belts;
- For those who insist on using blocked and/or worn sanding belts with a high percentage of breakages and consequent damage to the rubber-covered rollers
- Less risk of damage in case of belt breakage.

It is not suitable in the following cases:

- With paper belts on hard woods because it heats very much and leaves burn marks (tanning);

- For the same reasons indicated above (overheating of belt and crushing) the belt does not last long;
- Leaves marks on pieces;
- Harder to repair if the steel roller is scratched;
- High power cannot be installed because of a tendency to belt slippage; it is not therefore suitable when a lot of material must be removed along the entire work length.

4.8.2 Selecting the rubber-covered roller

If the machine does not have a high power and operation is not continuous, it is possible to work with a dia. 120 mm rubber-covered roller, while for high powers and heavy-duty use, the recommended diameter is 230-250 mm.
The 85/90 Sh rubber-covered calibrating rollers are suitable for all calibrating requirements and allow plenty of material to be removed with high operating precision. Moreover, under operating conditions equal to the steel roller ones, these ensure longer sanding belt life.
The 65/70 Sh rubber-covered calibrating rollers are suitable for both calibrating and pre-sanding and sanding on flat panels of uniform thickness or on woods (**Ramin type**) ,whose fibre, when crushed, attaches to the sanding grain and produces a finish that is not uniform (scratches and lines). They are also used for machining rough surfaces on resinous solid wood, on frames and wings and on all products with crossed fibres.

4.9 RULES FOR THE PAD UNIT

4.9.1 Pads

The pad unit can be with (manually adjustable) rigid body or of the multipurpose type which can be operated as rigid, straight pneumatic (inner tube) or pneumatic unit, but in combination with the transversal curvature system. All pad units can be operated together with other units such as sizing or sanding rollers. A standard pad fitting is a steel plate with different felt supports or felt plus different density rubber glued onto it to allow the widest operating possibilities.

NOTE: Operators of a machine with rigid pad unit must absolutely **avoid** using the sanding belt without the steel blade positioned in the housing provided and without the rod equipped with imitation leather with the felt or graphit fabric.
By following this rule, you will avoid damaging the felt fitted inside the pad body

NOTE: Operators of a machine with rigid pad unit must absolutely **avoid** performing the two following operations:

1a: Taking the steel plate out of its housing without first having released the air from the tube by moving switch (1) to OFF (see Fig. 'Pneumatic pad and timed roller control unit.' page 54).
2a: Operating the sanding belt without the steel plate fitted in the housing provided and without the rod with mock leather and felt or graphite cloth attached. Respecting these two rules prevents damage due to inner tube bursting.

4.9.2 Operating stages for setting up the pad unit

Proceed as follows:

A) Define the use, i.e. if you need to sand rough or painted surfaces; the latter operation can only be done with machines equipped with suitable accessories. Also evaluate whether you need to operate in combination with other units such as sizers or sanders;

B) On this basis, select the type of steel plate with the relevant support suitable for the type of work to be carried out.

Below follow a few broad indications for the most correct choice:

PRIMA 630

1. The extra-thick steel blade (2 mm) with felt support is normally used on the following materials: solid woods, frames, veneered panels or perfectly calibrated chipboard (see drawings "1-2-3" below).
2. The 2 mm thick plate with felt plus rubber (optional) support is normally used with the rigid pad on boards with slight differences in thickness or on boards with small deformations (see drawings. "3-4" below).

PRIMA 970 - SMART 1100:

1. The thick steel plate (2 mm) with felt support is normally used on the following materials: solid wood, frames, perfectly sized veneered chipboard (see drawings "1-2-3" below);
2. If the machine features a straight pneumatic pad unit (inner tube), the latter is used on veneered boards, wider than 600 mm;
3. The 2 mm thick plate with felt plus rubber support is normally used with the rigid pad on boards with slight differences in thickness or on boards with small deformations. However, the pneumatic pad unit is more suitable. (see drawings "3-4" below);
4. The thin steel plate (mm 0.8) with soft felt support (provided with the sectioned pad only) or on machines required to sand painted surfaces.

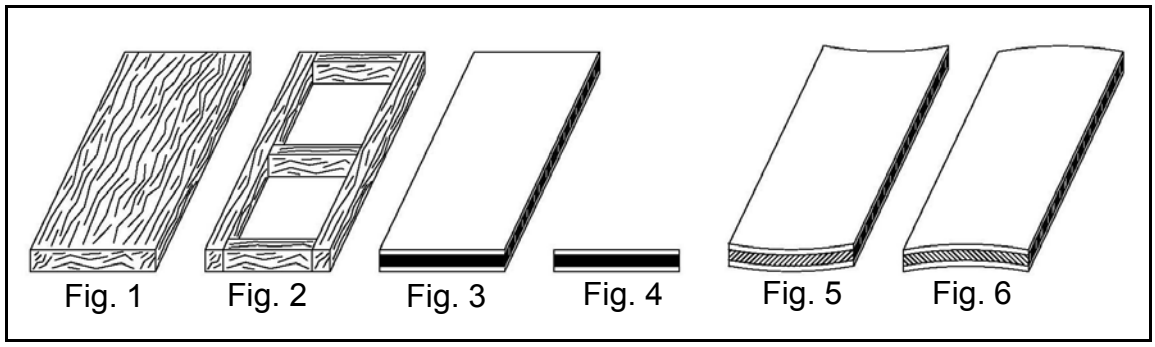


Fig. 4.27 Machining different pieces together

Proceed as follows:

1. Insert the selected plate (A) (see Fig. ’Inserting the plate’ page 80) with felt in its housing;

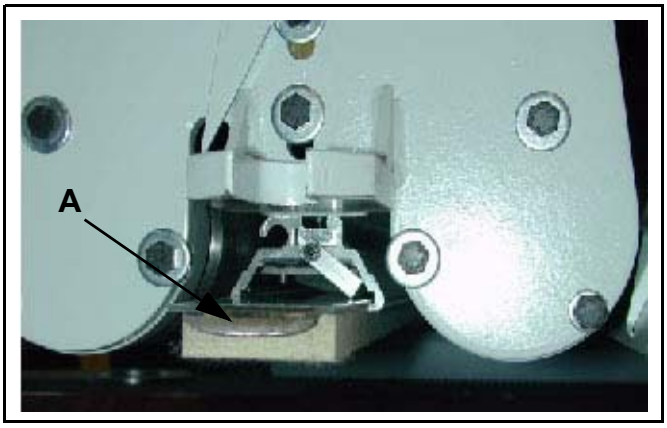


Fig. 4.28 Inserting the plate

2. Fit the suitable sanding belt;
3. Insert the rod with graphite support (B) attached in its housing (see Fig. ’Inserting the rod with graphite’ page 81). **NOTE**: For certain machining operations a felt support is provided;

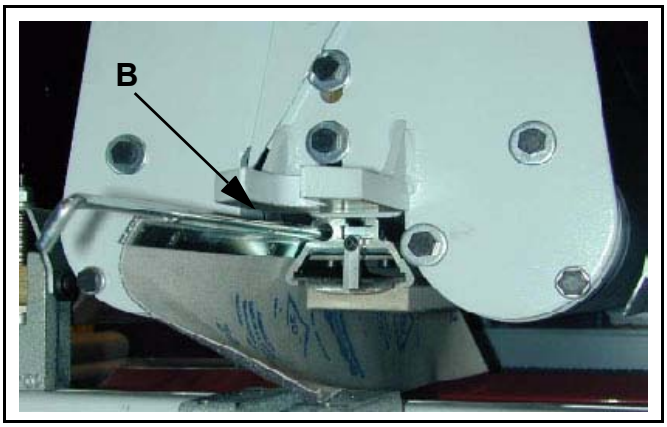


Fig. 4.29 Inserting the rod with graphite

4. Insert the support (C) and lock with the lever (D) (see Fig. ’Blocking lock’ page 81).

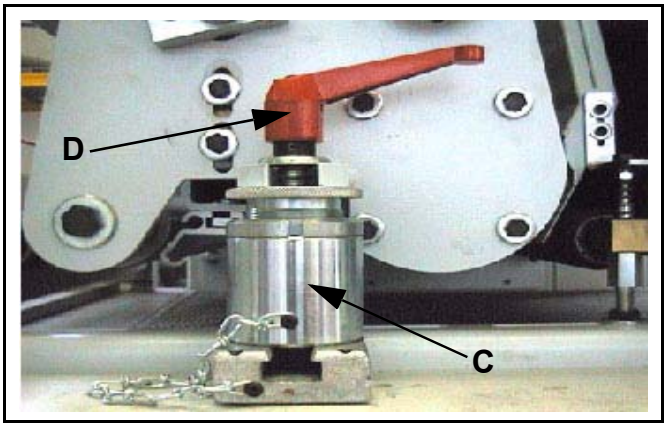
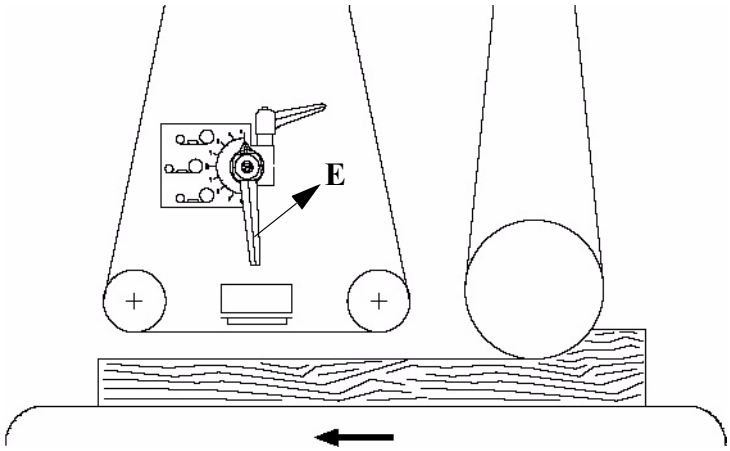
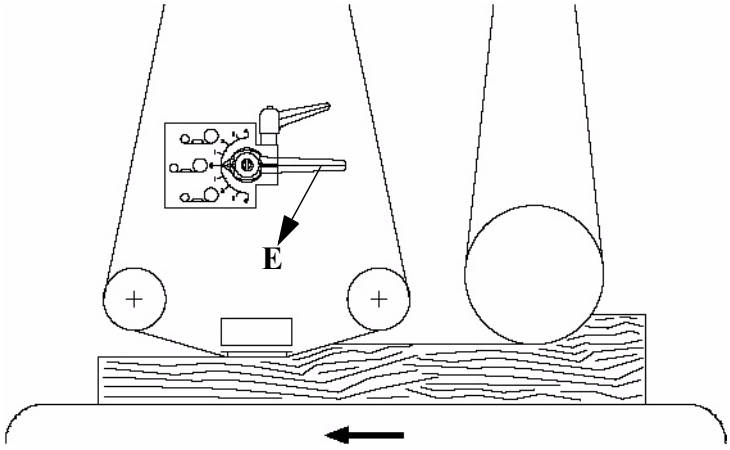
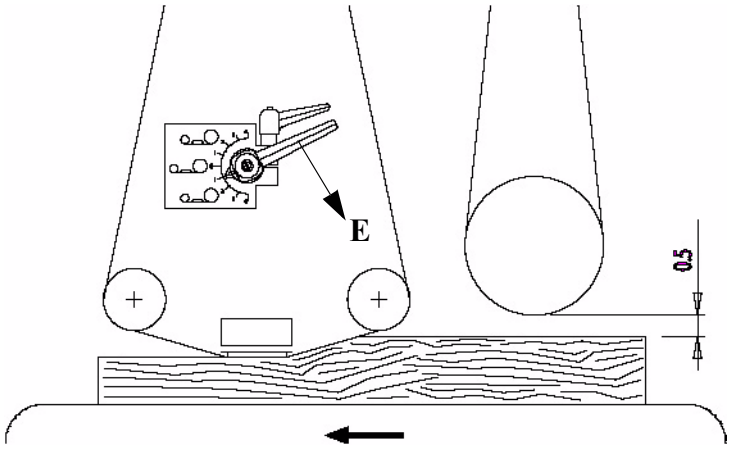


Fig. 4.30 Blocking lock

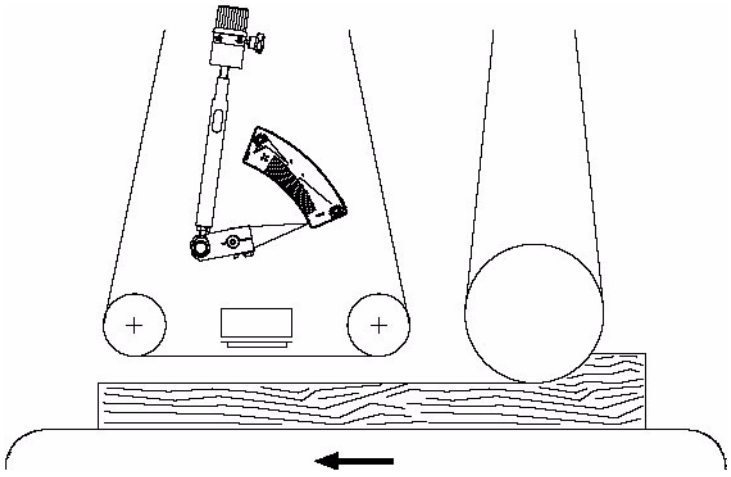
Tab. G: Positioning working units

Rigid and fixed semirigid pad, height adjustable by means of lever “E”

POSITION no. 1 WITH ROLLER ONLY, PAD EXCLUDED For sizing solid wood, chipboards or medium density boards

POSITION no. 2 ROLLER AND PAD SIMULTANEOUSLY For sizing and sanding of solid wood and window frames

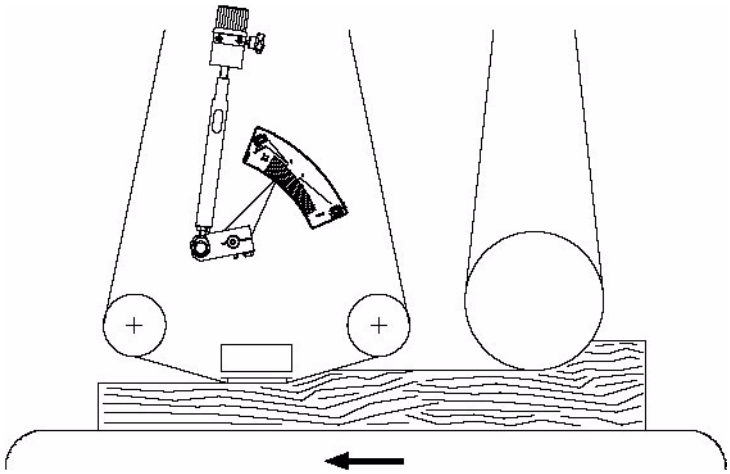
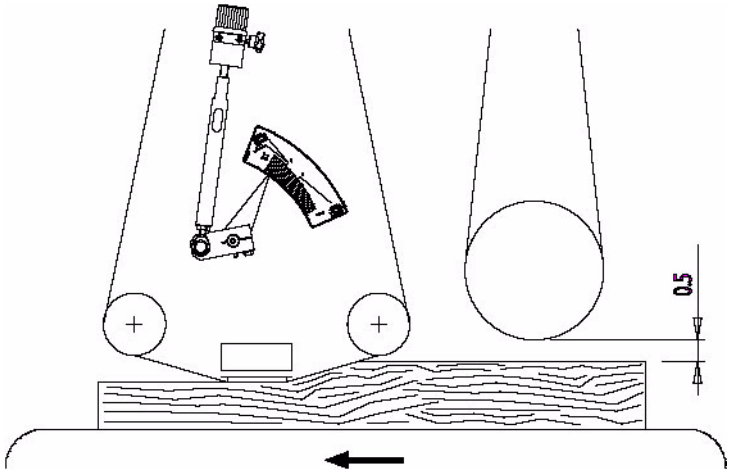
Tab. G: Positioning working units

Rigid and fixed semirigid pad, height adjustable by means of lever “E”

POSITION no. 3 WITH PAD ONLY, ROLLER EXCLUDED Only sanding on veneered boards without central opening. If the fix roller is present, lower the table 5-tenths with respect to the board thickness.

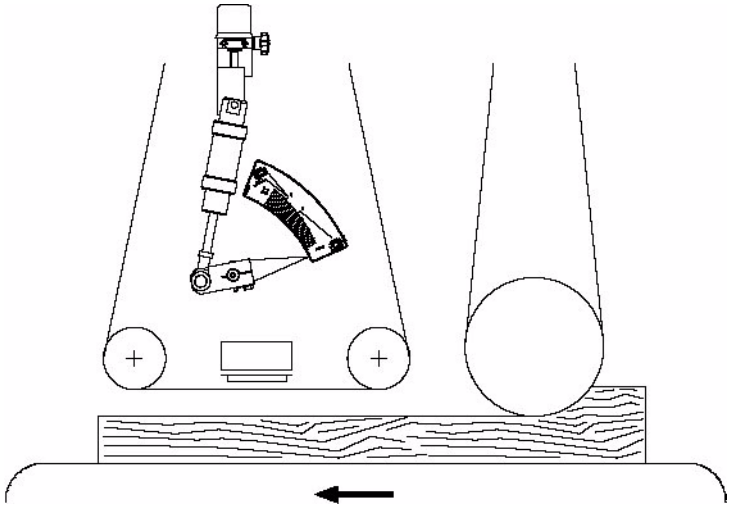
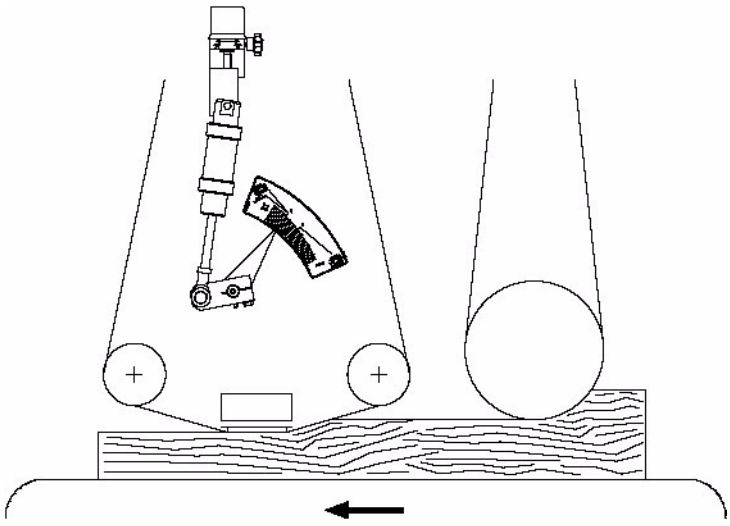
Tab. H: Positioning working groups

Rigid and semirigid fix pad, height adjustable by means of the manual ON/OFF device

POSITION no. 1 WITH ROLLER ONLY, EXCLUDED PAD For sizing solid wood, chipboards or medium density boards

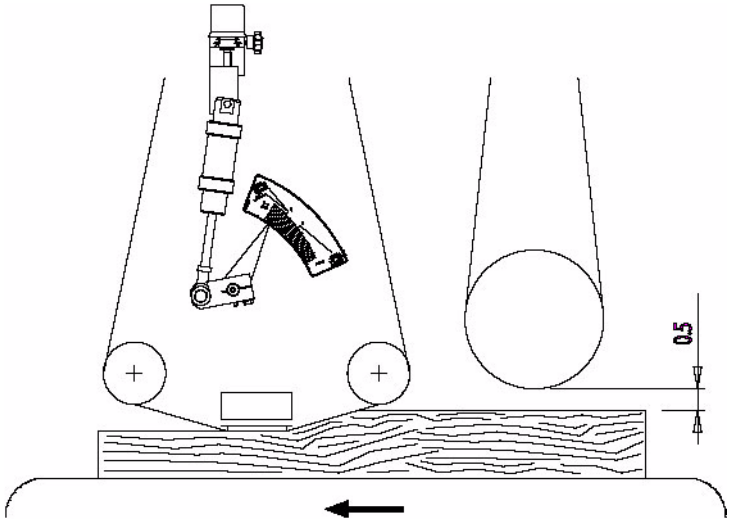
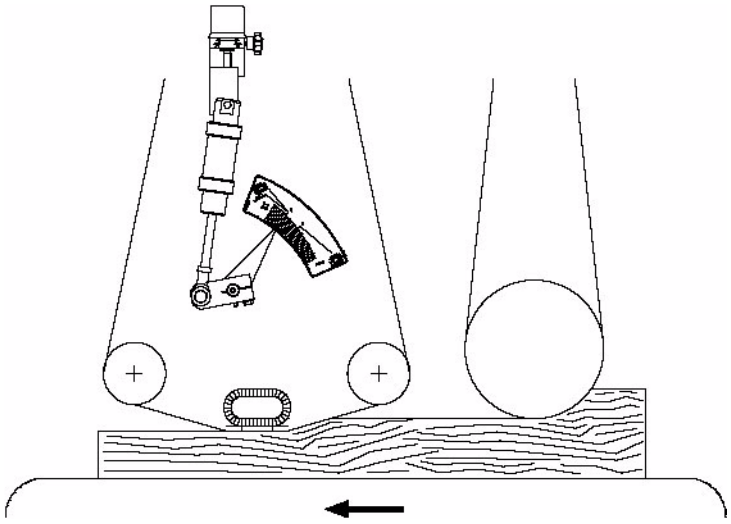
Tab. H: Positioning working groups

Rigid and semirigid fix pad, height adjustable by means of the manual ON/OFF device

POSITION no. 2 ROLLER AND PAD SIMULTANEOUSLY For sizing and sanding of solid wood and window frames

POSITION no. 3 WITH PAD ONLY, ROLLER EXCLUDED Sanding of veneered boards without central opening. If the fix roller is fitted lower the table by 5-tenths with reference to the board thickness.

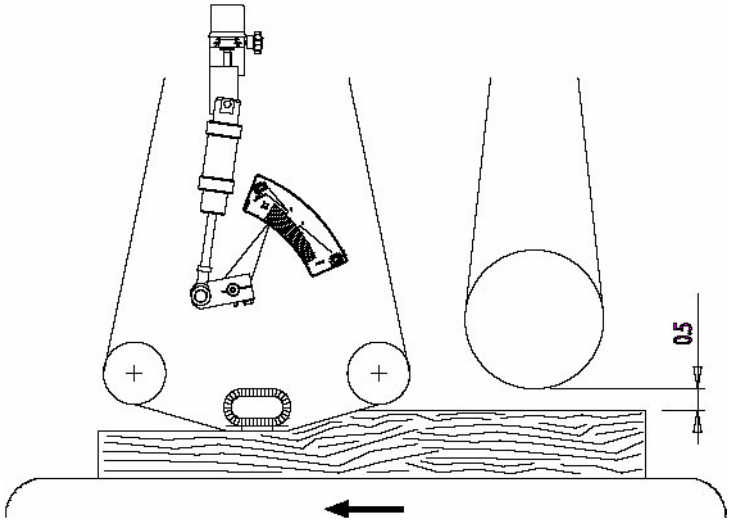
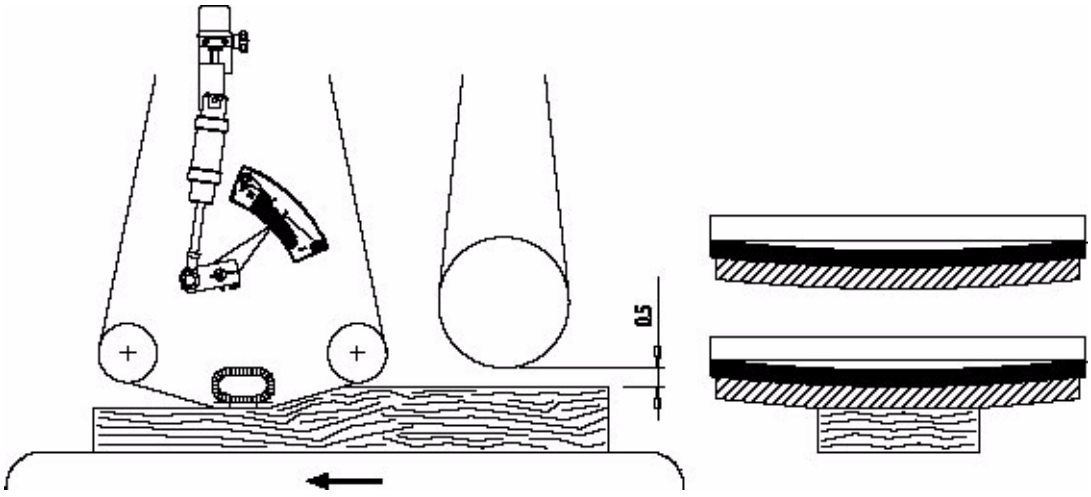
Tab. I: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of the electropneumatic device controlled by control unit

POSITION no. 1 WITH ROLLER ONLY, PAD EXCLUDED With control unit OFF for sizing solid wood, chipboards or medium density boards

POSITION no. 2 ROLLER AND PAD SIMULTANEOUSLY With control unit ON (pos. 12) for sizing and sanding of solid wood and window frames

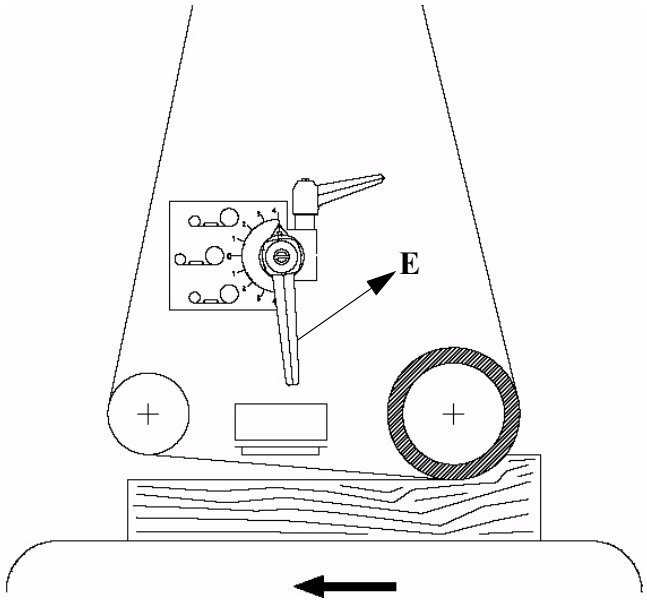
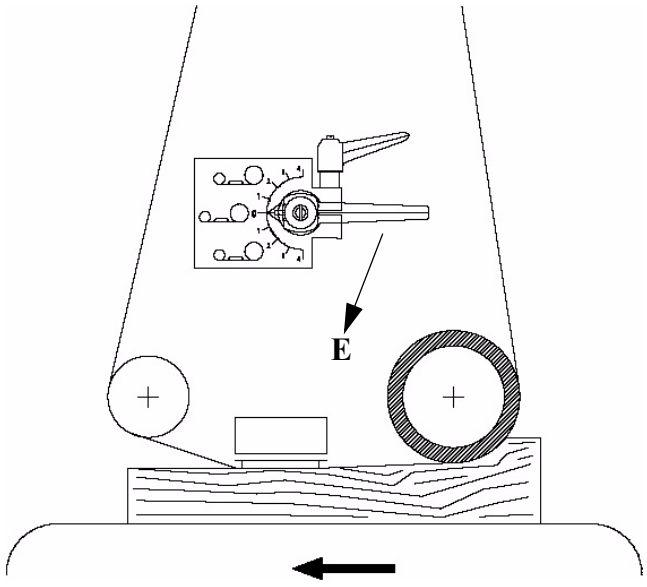
Tab. I: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of the electropneumatic device controlled by control unit

POSITION no. 3 WITH PAD ONLY, ROLLER EXCLUDED With control unit ON (pos. 12) only for sanding 5-tenths with reference to the board thickness.

POSITION no. 4 ROLLER AND PNEUMATIC PAD SIMULTANEOUSLY With central unit ON (pos. 6) for sizing and sanding of solid wood and window frames.

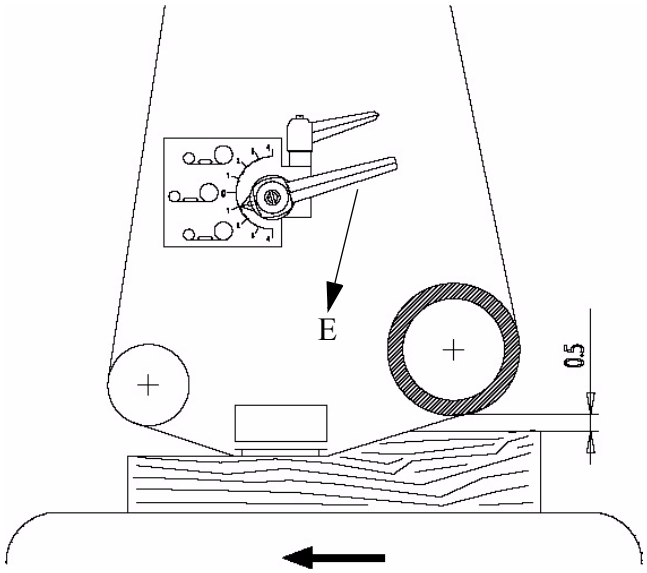
Tab. I: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of the electropneumatic device controlled by control unit

POSITION no. 5 , WITH PNEUMATIC PAD ONLY, ROLLER EXCLUDED With control unit ON (pos. 6) sanding of veneered boards without central opening only. If the fixed roller is fitted, lower the table by 5-tenths with reference to the board thickness.

POSITION no. 6 WITH PRECURVED PNEUMATUC PAD ONLY, ROLLER EXCLUDED With central unit ON (pos. 7) sanding on unsized coated and veneered boards only. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

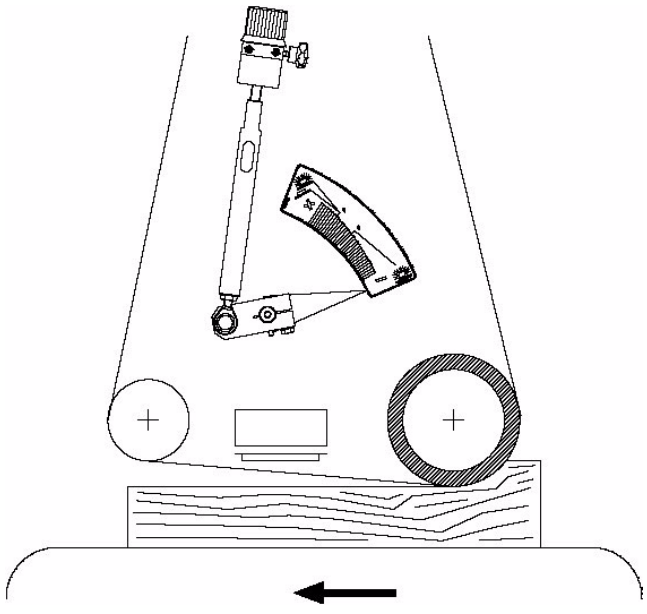
Tab. J: Positioning working table

Rigid and semirigid fixed pad, height adjustable by means of lever (E).

POSITION 1: WITH ROLLER ONLY For sizing solid wood, chipboard and medium density board.

POSITION 2: ROLLER AND PAD SIMULTANEOUSLY For sizing and sanding of solid wood and window frames.

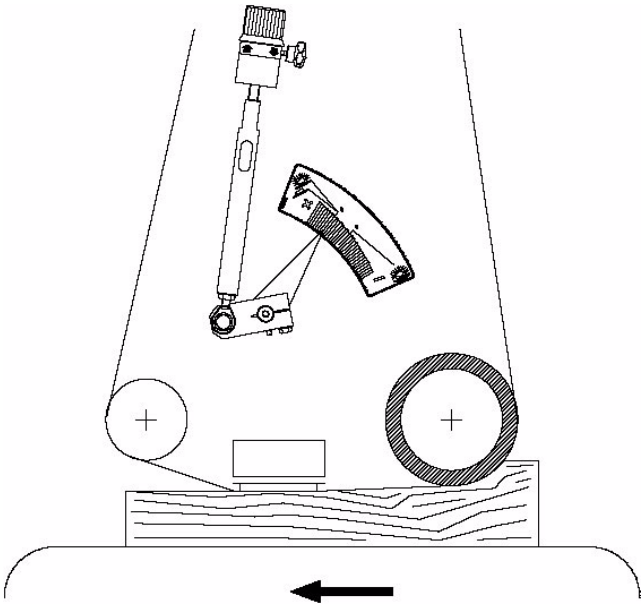
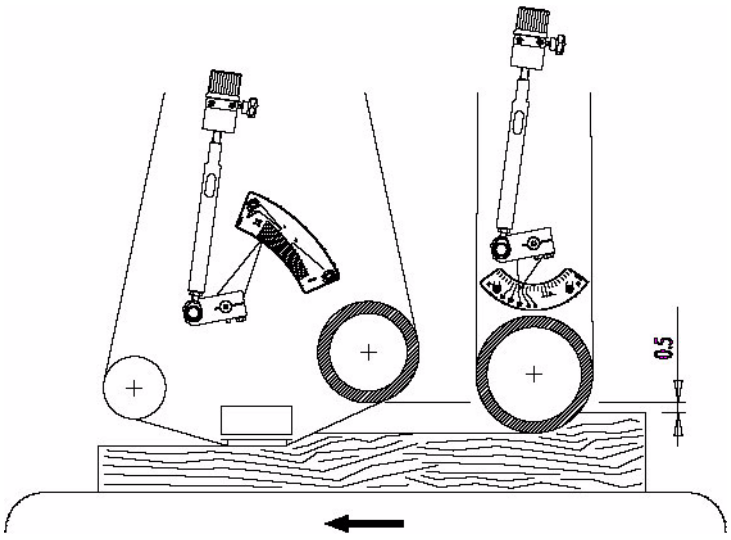
Tab. J: Positioning working table

Rigid and semirigid fixed pad, height adjustable by means of lever (E).

POSITION 3: WITH PAD ONLY Sanding on veneered boards without central opening only. If the fixed roller is fitted ,lower the table by 5 tenths with reference to the board thickness.

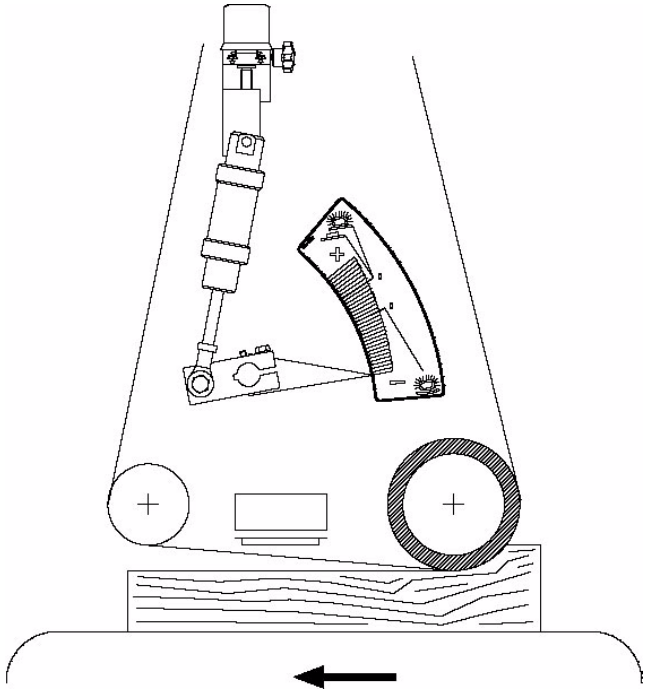
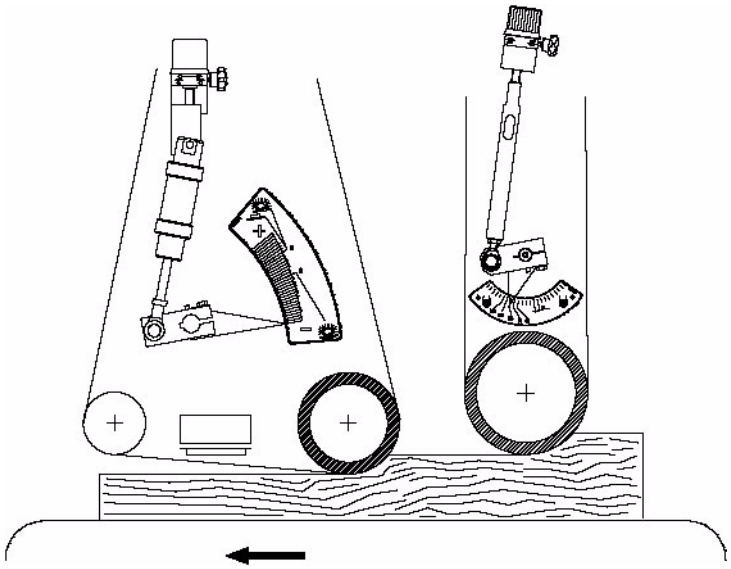
Tab. K: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of manual ON/OFF device


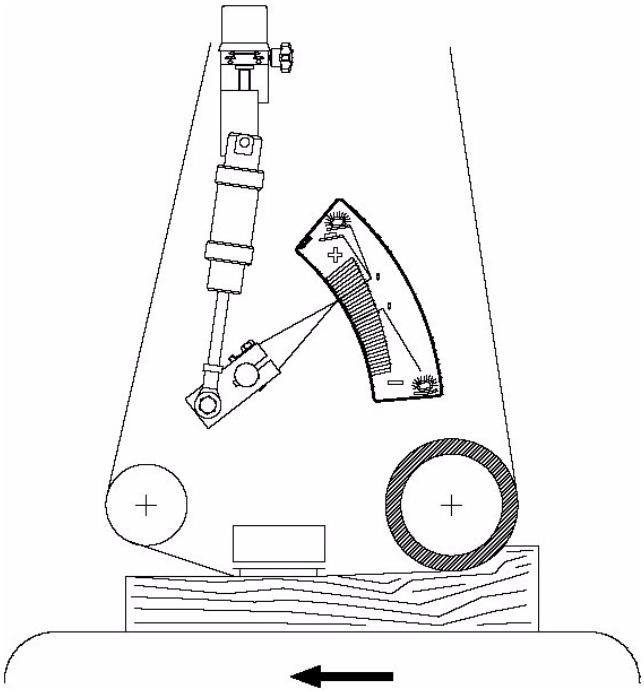
Tab. K: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of manual ON/OFF device
POSITION 1: WITH ROLLER ONLY, PAD EXCLUDED For sizing of solid wood, chipboards and medium density boards.

POSITION 2: ROLLER AND PAD SIMULTANEOUSLY For sizing and sanding of solid wood and window frames.

POSITION 3: WITH PAD AND FIRST ROLLER ONLY, COMBINED ROLLER EXCLUDED Sanding on veneered boards without central opening. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

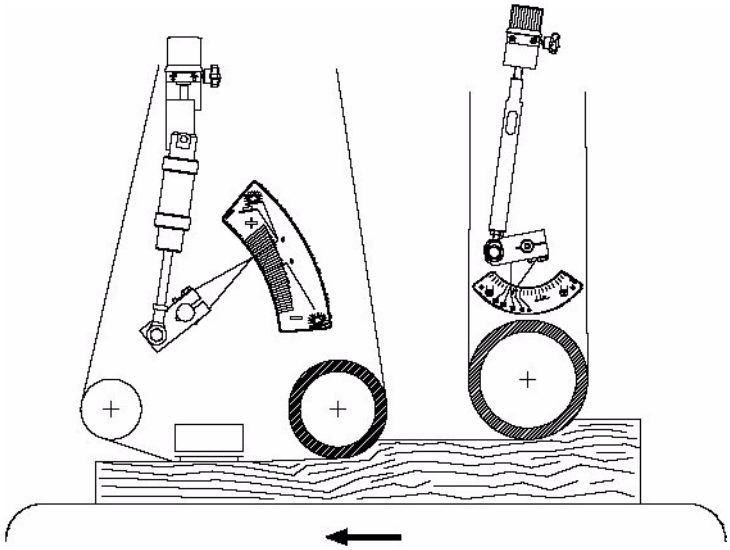
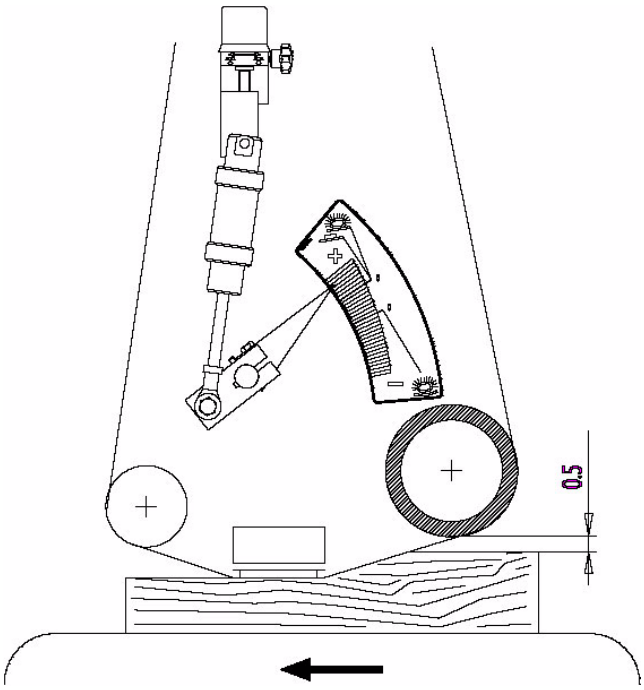
Tab. L: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electrompneumatic device controlled by control unit.

POSITION 1: WITH ROLLER ONLY, PAD EXCLUDED With control unit OFF for sizing solid wood, chipboards or medium density boards.


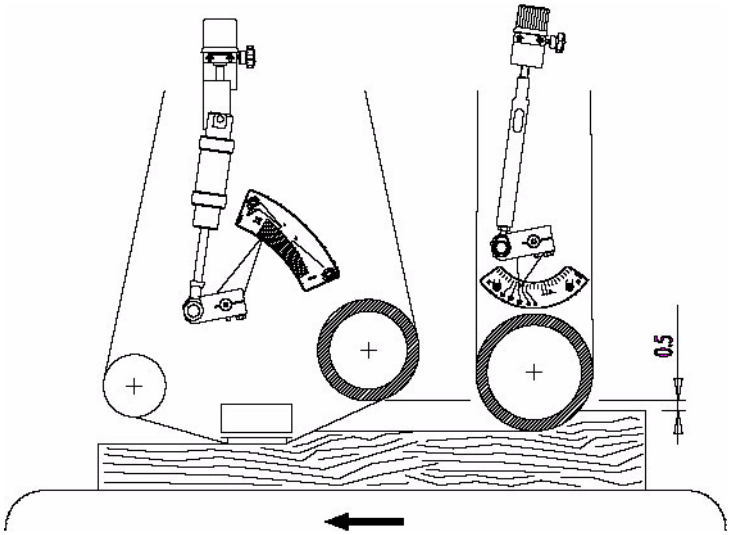
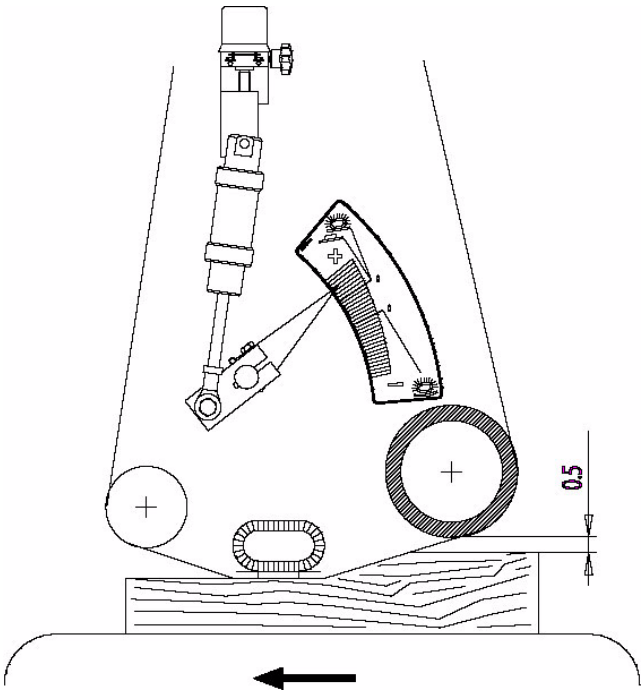
Tab. L: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electrompneumatic device controlled by control unit.
POSITION 2: FIRST ROLLER AND COMBINED ROLLER SIMULTANEOUSLY, PAD COMBINED UNIT EXCLUDED With control unit OFF for sizing solid wood, chipboards or medium density boards.

POSITION No. 3 WITH ROLLER AND PAD SIMULTANEOUSLY With central unit ON (pos. 12), sanding of veneered boards without central opening only. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

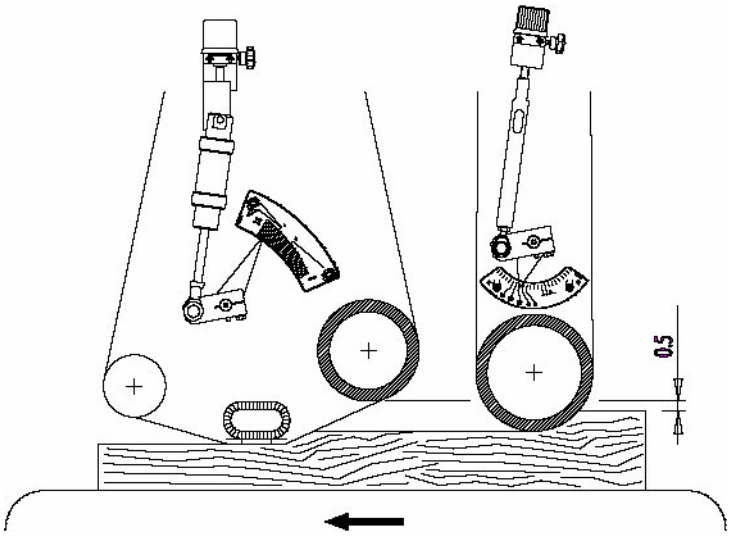
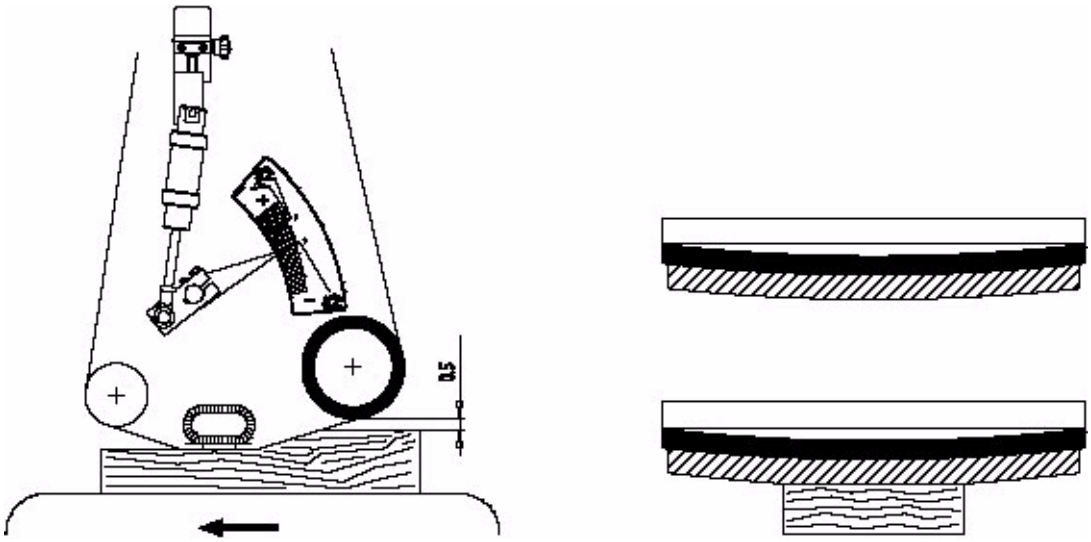
Tab. L: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electrompneumatic device controlled by control unit.

POSITION No.4 WITH RIGID PAD AND ROLLERS SIMULTANEOUSLY With central unit ON (pos. 12) for sizing and sanding of solid wood and window frames.

POSITION No.5 WITH PAD ONLY, ROLLER EXCLUDED With central unit ON (pos. 12) sanding of veneered boards without central opening. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

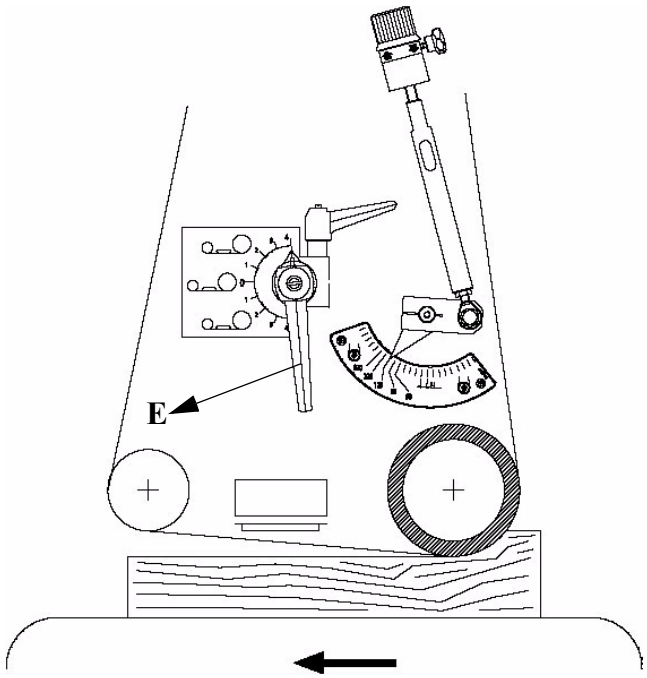
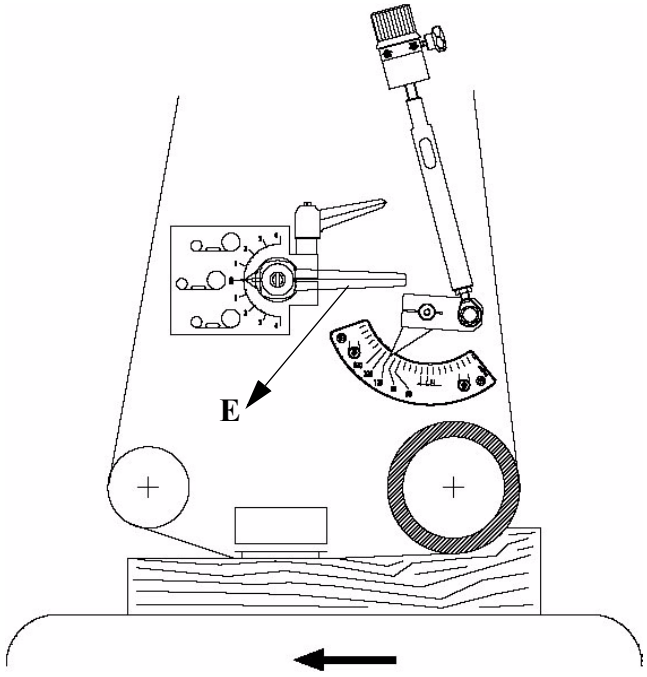
Tab. L: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electrompneumatic device controlled by control unit.

POSITION No. 6 FIRST ROLLER AND COMBINED PAD SIMULTANEOUSLY, COMBINID ROLLER EXCLUDED With central unit ON (pos. 12) sanding of veneered boards without central opening only. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.


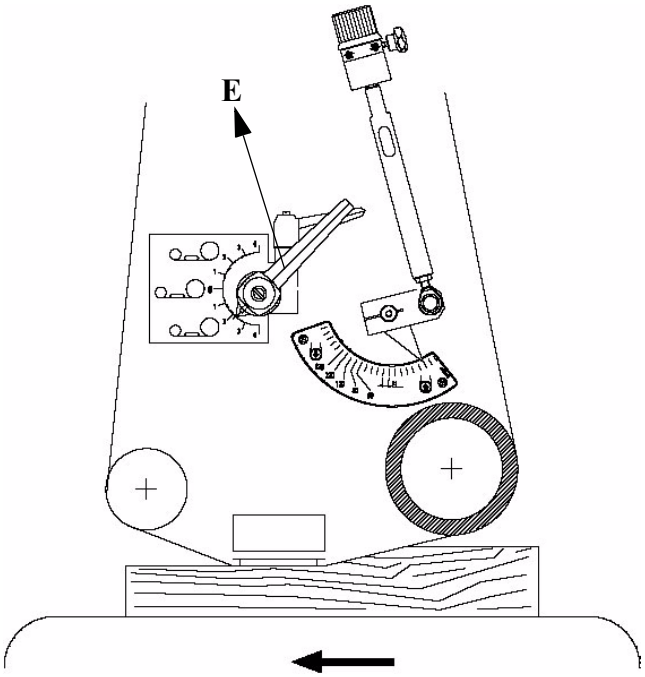
Tab. L: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electrompneumatic device controlled by control unit.
POSITION No. 7 WITH PNEUMATIC PAD ONLY, ROLLER EXCLUDED With central unit ON (pos. 6). Sanding of veneered boards without central opening. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

POSITION No. 8 FIRST ROLLER AND COMBINED PNEUMATIC PAD With central unit ON (pos. 6) sanding veneered boards without central opening. If the fixed roller is fitted, lower by 5 tenths with reference to the board thickness.

POSITION No. 9 PRECURVED PNEUMATIC PAD With central unit ON (pos. 7) sanding on unsized coated and veneered boards only. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

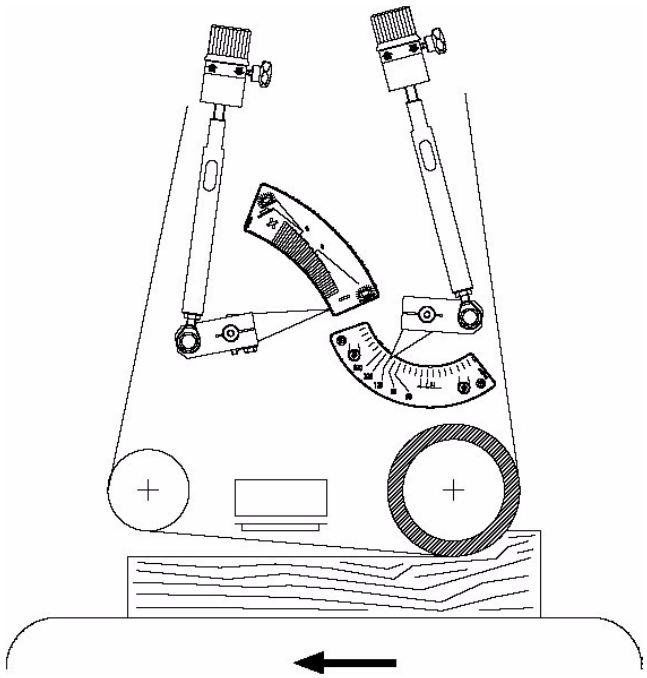
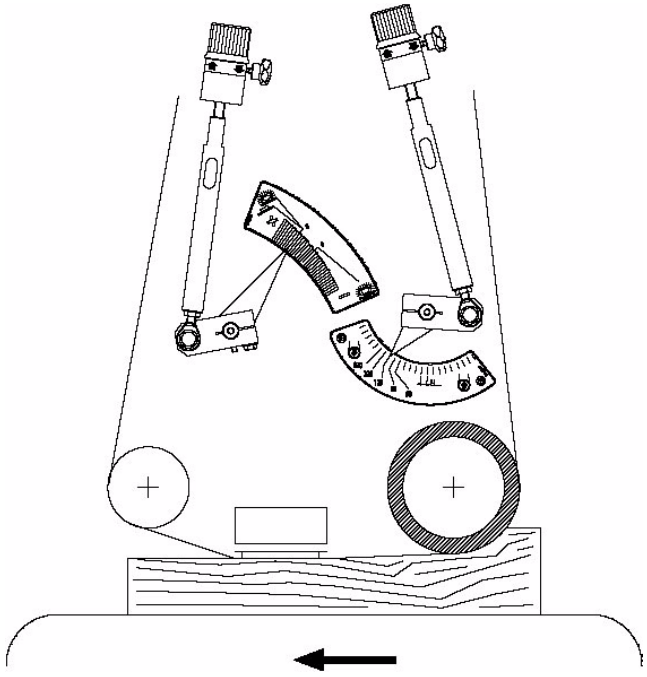
Tab. M: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of lever “E”

POSITION No.1 WITH ROLLER ONLY, PAD EXCLUDED For sizing solid wood, chipboards or medium density boards.


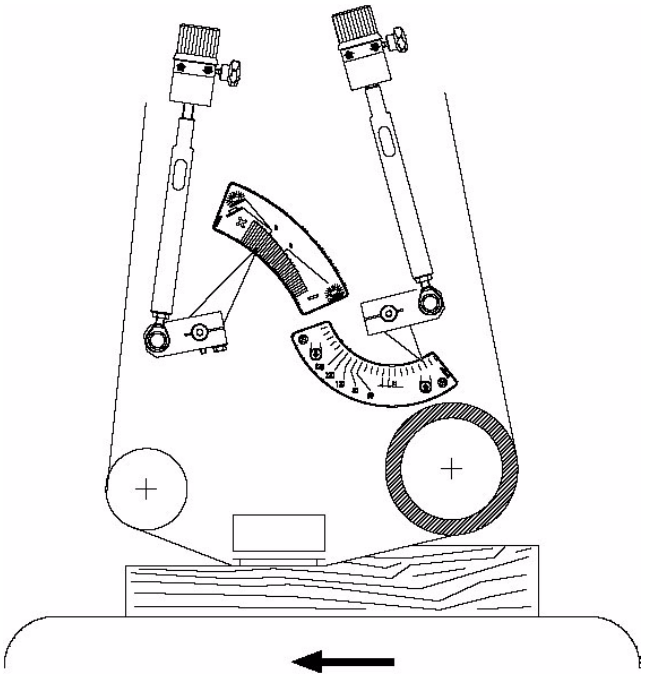
Tab. M: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of lever “E”
POSITION No. 2 ROLLER AND PAD SIMULTANEOUSLY For sizing and sanding of solid wood and window frames.

POSITION No. 3 WITH PAD ONLY, ROLLER EXCLUDED Sanding on veneered boards without central opening only.

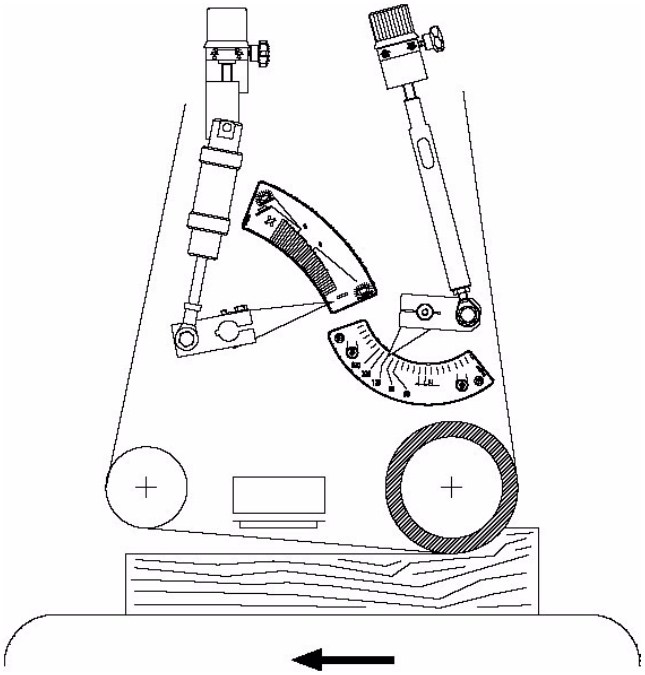
Tab. N: Positioning working groups

Rigid and semirigid fixed pad, height djustable by means of manual ON/OFF device

POSITION No.1 WITH ROLLER ONLY, PAD EXCLUDED For sizing solid wood, chipboards or medium density boards.


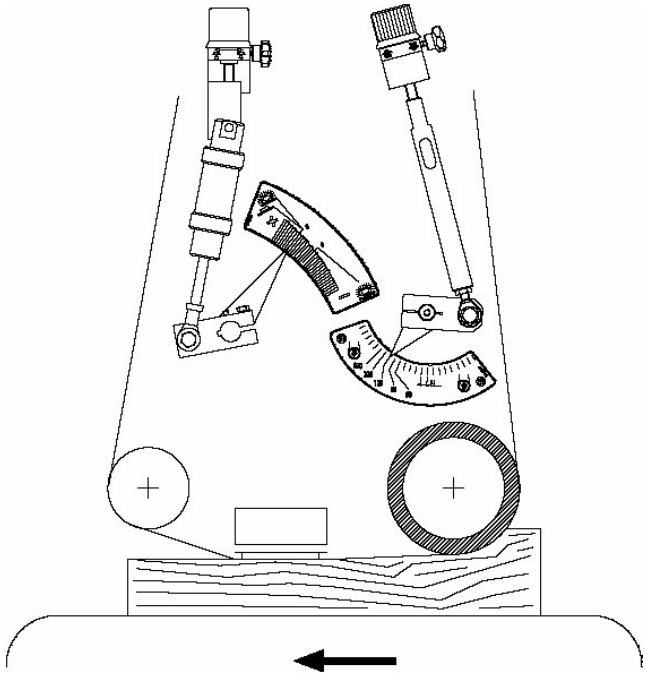
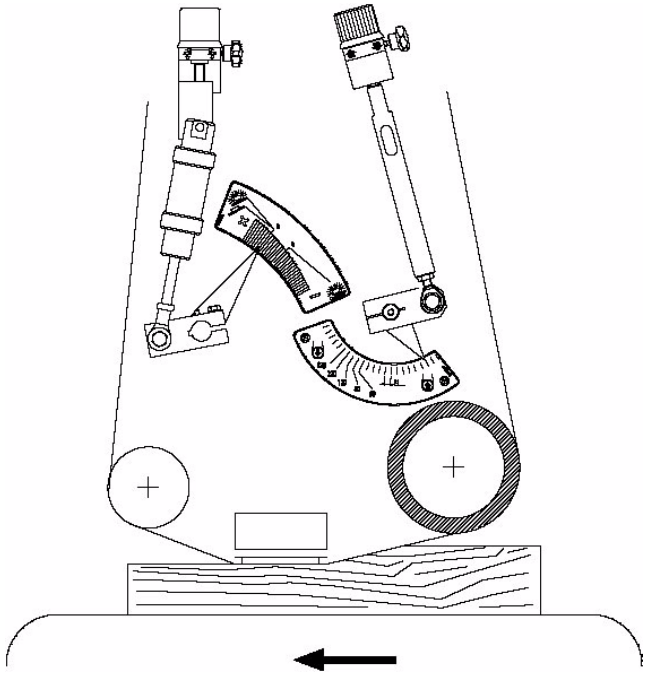
Tab. N: Positioning working groups

Rigid and semirigid fixed pad, height djustable by means of manual ON/OFF device
POSITION No. 2 ROLLER AND PAS SIMULTANEOUSLY For sizing and sanding of solid wood and window frames.

POSITION No. 3 WITH PAD ONLY, ROLLER EXCLUDED Sanding on veneered boards without central opening. If the fixed roller is fitted, lower the table 5 tenths with reference to the board thickness.

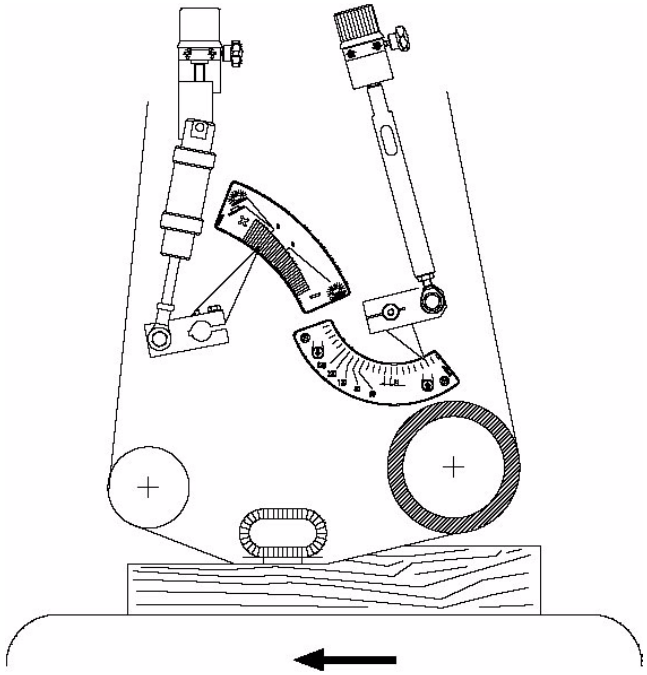
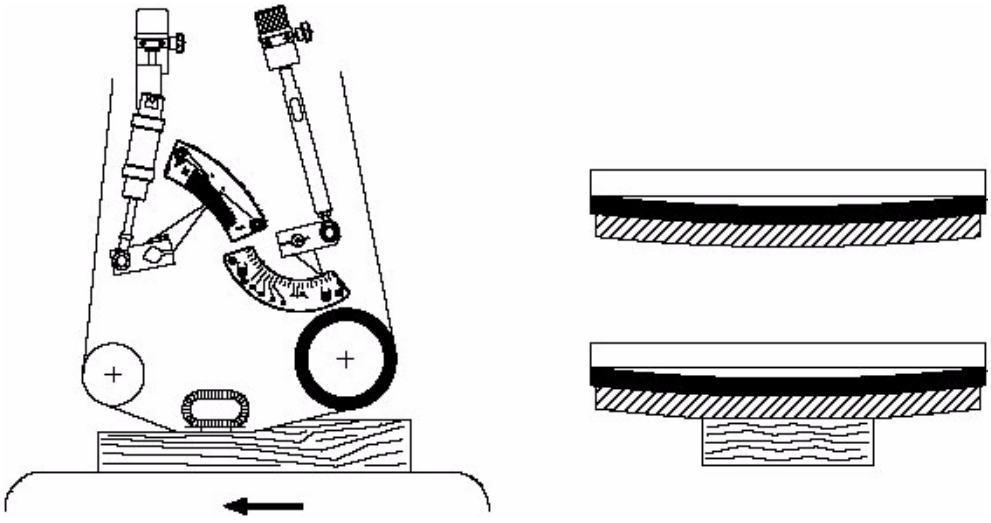
Tab. O: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electropneumatic device controlled by control unit.

POSITION No.1 WITH ROLLER ONLY, PAD EXCLUDED With central unit OFF. For sizind of solid wood, chipboards or medium density boards.

Tab. O: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electropneumatic device controlled by control unit.

POSITION No. 2 ROLLER AND PAD SIMULTANEOUSLY With central unit ON (pos. 12). For sizing and sanding of solid wood and window frames.


Tab. O: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electropneumatic device controlled by control unit.
POSITION No. 3 WITH PAD ONLY, ROLLER EXCLUDED With central unit ON (pos. 12) sanding on veneered boards without central opening only. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness.

POSITION No. 4 WITH PNEUMATIC PAD ONLY, ROLLER EXCLUDED With central unit ON (pos. 6) sanding of veneered boards without central opening. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board).


Tab. O: Positioning working groups

Rigid and semirigid fixed pad, height adjustable by means of electropneumatic device controlled by control unit.
POSITION No. 5 PRECURVED PNEUMATIC PAD, ROLLER EXCLUDED With central unit ON (pos. 7) sanding on unsized coated and veneered boards only. If the fixed roller is fitted, lower the table by 5 tenths with reference to the board thickness).

4.10 NORMAL AND TIMED BLOWERS (optional)

The use of belt blowers is necessary when working on varnished panels, because it keeps the sanding surface clean and cooled; it is however useful when carring out other types of work, because it gives a better finish and assures a longer belt life.
To adjust blower travel speed open tap (R):

- By turning the tap clockwise the speed is slowed down;
- By turning the tap anticlockwise the speed is increased.

The blowers are controlled by the buttons 1 - 4 on the control panel (see Fig. 'Pneumatic and timed blower control unit' page 52) according to the type of blower selected when ordering the PRIMA 630 and PRIMA 970 machines, if these are fitted with push-button panels.
The blowers are controlled by the buttons 14 - 18 on the control panel (see Fig. 'Button panel to be installed on all models' page 47) according to the type of blower selected when ordering the PRIMA - SMART - CONCEPT - PROJECT - EXECUTIVE machines.

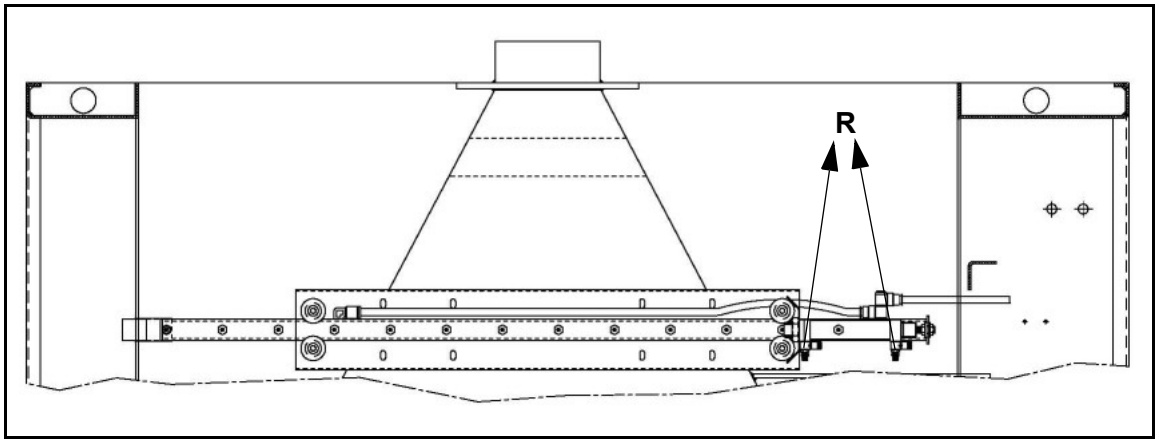


Fig. 4.31 Blower unit

4.11 BLOWERS WITH ROTATING NOZZLES (optional)

The blowers with rotating nozzles are controlled by button 12 (see Fig. 'Button panel to be installed on all models' page 47) to ensure good removal of waste material from the work piece and the worktable. Carefully read the attached manual "Rotating blower model GP1", when this optional is fitted to the machine.

Fig. 4.32 Rotating blower

4.12 ADJUSTMENT AND REPLACEMENT OF THE BRUSHING ROLLER diam. 120 mm

During the fattory testing, the brush (see Fig. 'Brushing unit' page 105) indicated with (L) is positioned 3/5 mm lower than the operating level of the sand belt. When, following use, this value has to be lowered, simply loosen the screws (A) by means of the holes on the guard, remove the small guards by means of screws (D), loosen the locknuts (B) and the screws (C) which will cause the brush to drop.

*NOTE: T*o maintain the alignment of the roller to the table, simply refer to the plates *(E)*.

To replace the brush, proceed as follows:

1. Loosen the locknut (F);
2. Loosen the screw (G) which causes the motor to drop and loosen the belt;
3. Remove the small side guards by means of screws (D);
4. Remove the loosened belt (H);
5. Loosen the screws (I) which allow removal of the brush/supports unit;

6. Remove the bearing (M) and replace the brush (L);
7. Proceed with the opposite sequence to assembly.

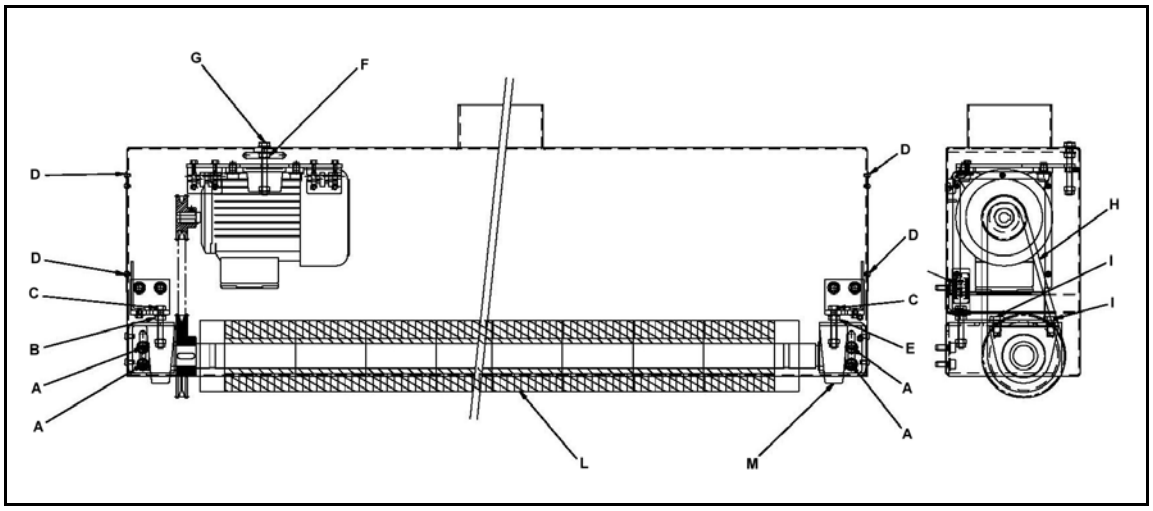


Fig. 4.33 Brushing unit

Fig. 4.34 Brushing roller position

4.13 ADJUSTMENT AND REPLACEMENT OF SATIN-FINISH ROLLER OR BRUSHING ROLLER dia. 200 mm

a) Brush;

b) Bearings SY30TF;

c) Cast-iron supports;

d) Brush roller fastening screw;

e) Handle for brush roller raising and lowering;

f) Belt SPZ Sv.800;

g) Brush motor diam. 200 HP2 2 poles, for diam. 100 HP 0.75 4 poles;

h) Brush roller protection casing;

i) Roller position elevation/lowering indicator.

The brush roller (see Fig. 'Gruppo rullo satinatore o spazzolatore diam. 200 mm' page 106) is adjusted in the following manner:

1. Remove casing indicated by (H);
2. loosen the belt and lower motor (G);
3. Remove belt (F);
4. Unscrew bearings (B);
5. Unscrew ring-nut (D);
6. When the bearings and the ring-nut have been unscrewed, the roller is ready to be extracted;
7. Operate handle (F) according to indicator (I) to adjust removal.

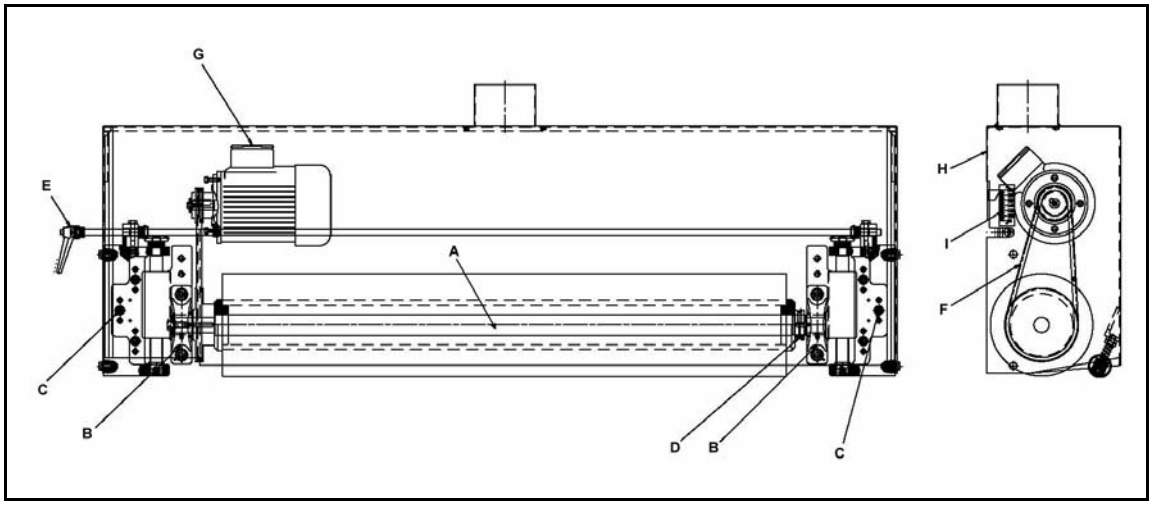


Fig. 4.35 Gruppo rullo satinatore o spazzolatore diam. 200 mm

4.14 ADJUSTMENT OF THE RUBBER-COVERED ROLLER

A) Pressure gauge indicating the pressure of the rubber-covered roller;

B) Pressure regulator of the rubber-covered roller.

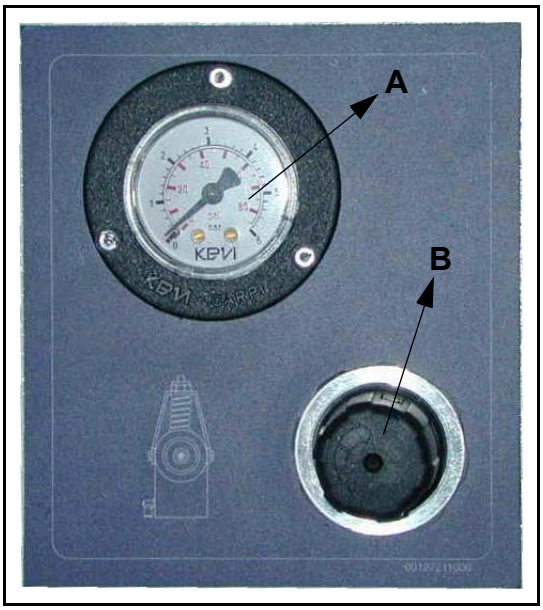


Fig. 4.36 Pressure gauge

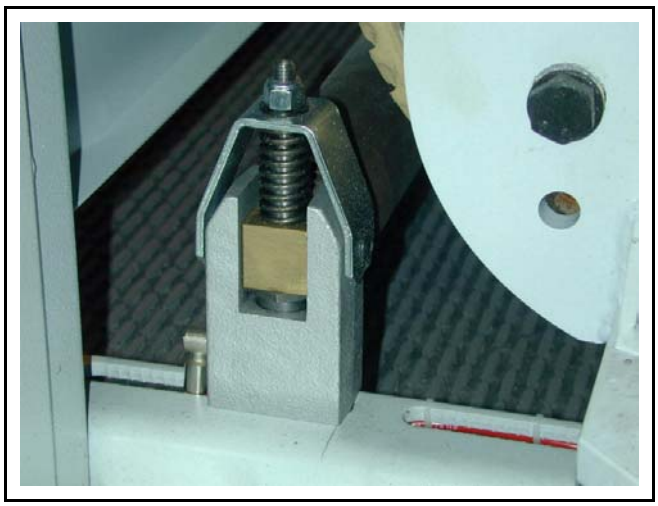


Fig. 4.37 Rubber-covered roller

4.15 AIR PRESSURE REGULATOR SHOES

1. Manometer showing air pressure shoes;
2. Air pressure regulator shoes.

N.B.: When the machine is used for sizing, reset the pressure of the shoes shown on pressure gauge (1) to zero by means of the regulator (2). When the machine is used for sanding with floating table, regulate the pressurer at 6 bar.

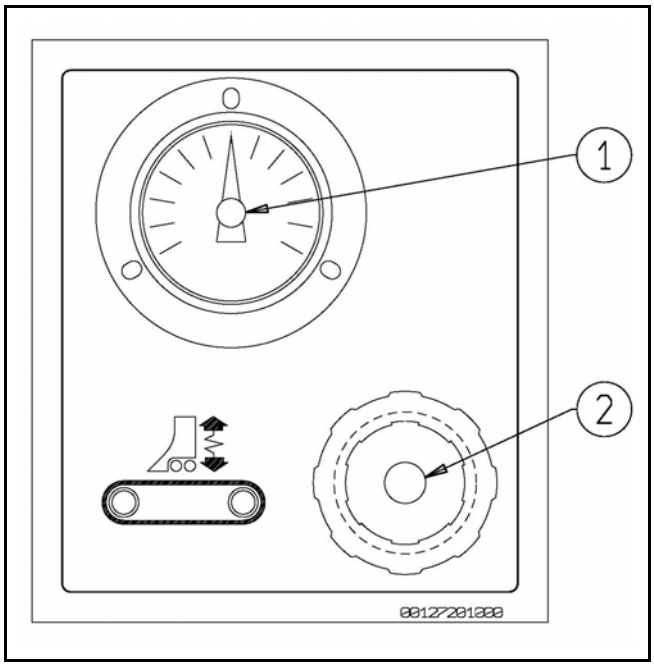


Fig. 4.38 Manometer pressure adjustment

4.16 CONTROL UNIT controlled by CN050

A) Emergency mushroom-shaped button to STOP the machine;

B) Button for starting and releasing the brake. (No controls will work if the brake is not released);

C) Ammeters of the sanding belt motors of the top machine;

D) Led for the correct swinging of the belts. It lights up when the belt goes out of the sensor. If it is constantly lit up, that means the sensors are full of dust;

E) In case of machine malfunction, the C.N. 050 indicates the following cases:

- Breaking or going out of place of one belt;
- Pressure is lower than 4.5 atm.;
- There is no power-supply;
- Doors are open;
- Tripping of front bar emergency and rear mushroom-shaped emergency;
- Tripping of thermal cutout;

(see enclosed manual for C.N. 050 use)

F) Ammeters of the sanding belt motors of the bottom machine.

Fig. 4.39 CN 050 control unit

PERIODICAL MAINTENANCE

Careful periodical maintenance extends the life and maintains machine working characteristics unaltered. A major safety factor for the machine and the operator is the careful general cleaning of the machine and the surrounding area; every evening, after finishing work, clean the complete machine using a vacuum cleaner.
Clean the conveyor belt with compressed air and soften it with a damp cloth.

During machine operation, wood dust tends to accumulate on the extraction hoods due to the resin in the wood. This forms fairly large blocks that prevent correct extraction. To overcome the problem, remove these blocks as soon as they tend to form, using a scraper or spraying the block with a specific product, after making sure this is not harmful. Such product should soften up the blocks, making removal easier.

Before performing any maintenance operations, turn the master switch to zero and indicate that work is being done on the machine by hanging up a notice.

5.1 RE-LUBRICATION

In order to keep the machine in good working condition, it is important to periodically re-lubricate the parts indicated in the next paragraphs.

Before lubricating the various machine parts, protect both the pulleys and the belts to prevent these becoming dirty with grease or oil.

5.1.1 Re-lubrication of the bearing with barrel rollers

This is carried out by introducing the appropriate grease Stauffer at the top of the supports (A) (see Fig. 'Bearing with roller' page 114). This operation must be performed on lines PRIMA, SMART and CONCEPTST. The others lines PROJECT and EXECUTIVE do not feature barrel rollers.

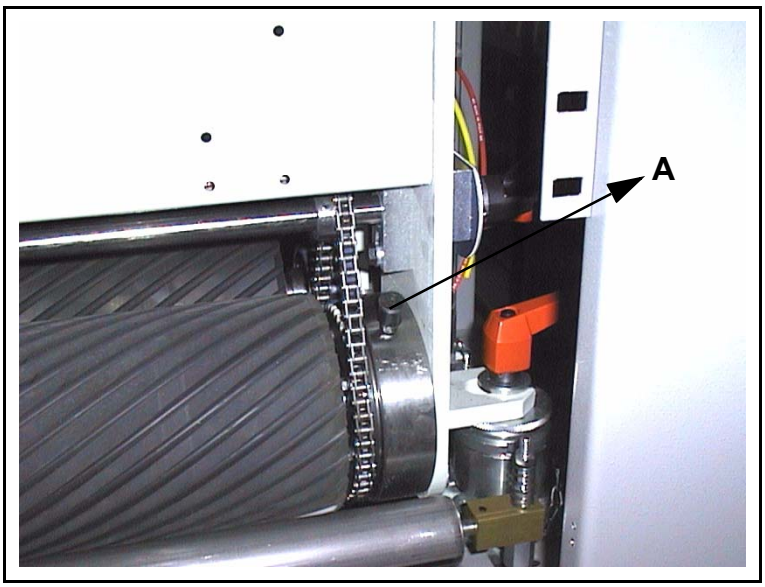


Fig. 5.1 Bearing with roller

5.1.2 Relubrication of the rigid support bearings

Under normal working conditions, the amount of grease in the bearings (R) or (S) or (T) is sufficient for all their life; under unfavourable external conditions or hight temperature variations, further lubrication is necessary.

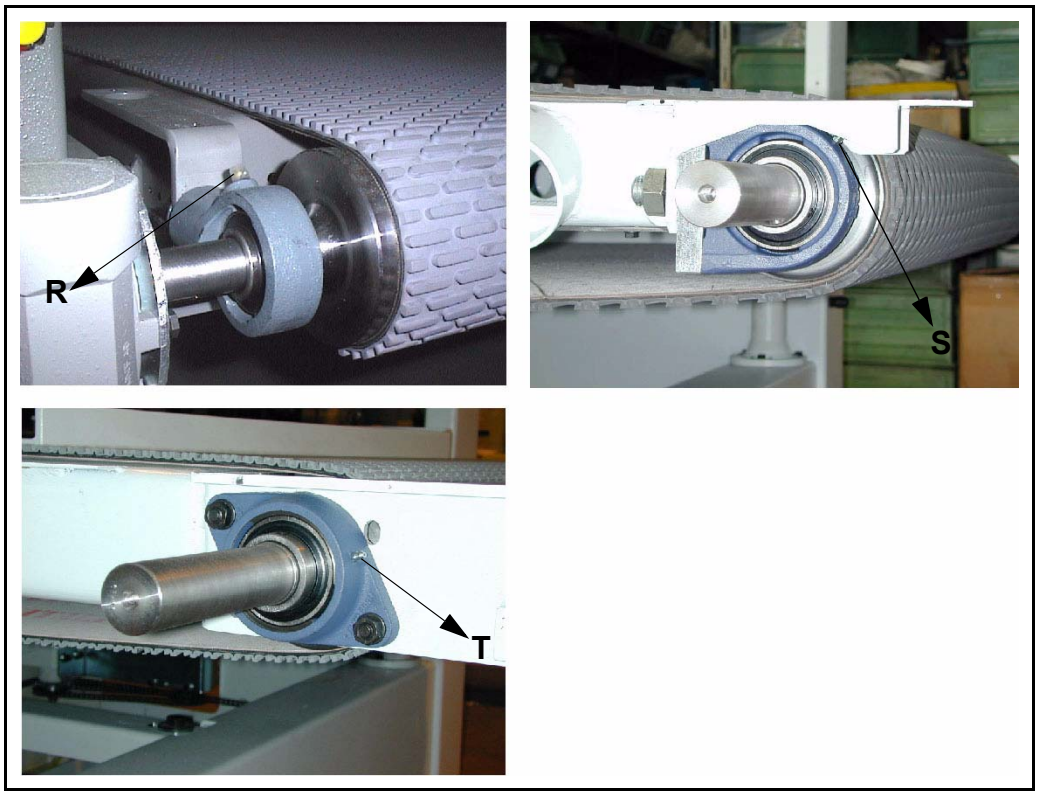


Fig. 5.2 Different bearings installed

5.1.3 Relubrication of the feed conveyor belt gear motor unit

NOTE: The endless screws reducer is equipped with a long life lubrication system which does not require replacment or addition of oil; the unit is not equipped with loading-unloading or level plugs.
NOTE: On the other hand, the more powerful units are equipped with various lubrication nipples. As indicated in the above table, these must be checked at least once every 12 months. When the units are used for over 40 hours per week, the periods between checks must become proportionately shorter. It must also be noted that use in tropical regions also requires the units to be checked more frequently.

5.1.4 Relubrication of the lifting gear motor unit

The endless screws reducer is equipped with a long life lubrication system which does not require replacment or the addition of oil; the unit is not equipped with loading-unloading or level plugs.

5.1.5 FRL group lubrication

It is necessary to keep a constant oil level in the tank (V) of the lubricator, the refilling is carried out by means of the plug indicated by (T). Furthermore, pe-

riodically drain the condensate of the filter (F) using screw (Q) before it reaches the filtering element (A) (see Fig. 'FRL Unit' page 116).

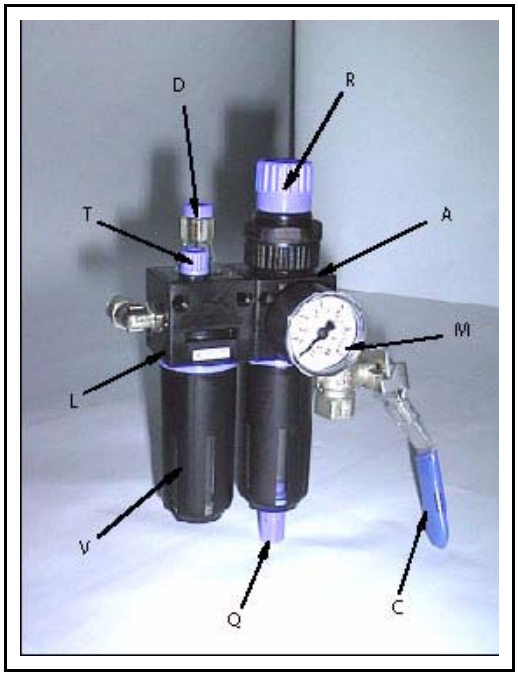


Fig. 5.3 FRL Unit

Table 16: Lubricants

GROUP	POSITION	CONTROL	QTY	MAKE	TYP
Bearings	A	every 600 hours	2.9 gr	SHELL ARAL BP ESSO MOBIL	ALVANIA 2 HL 2 ENGRESE CS2 BEACON 2 MOBILIX 2
Reduction unit	G	every 12 months	level	SHELL KLUBER BP ESSO	TIVELA SC 320 SYNTHESO D 220 EP ENERGOL SG-XP220 GLYCOLUBE RANGE 220
Variator	I	after 1st replacement every 1000 hours	1 Kg	MOBIL API	ASTROL 879 A.T.F.DEXRON A.T.F. 220 AUTRAN DX
FRL	T	control by sight	fill the tanks	PINA MARSON	OIL D.T.E. CIS 3

5.1.6 Driving belts tensioning

After the first 100 working hours it will be necessary to reset the correct driving belt tensioning of the motor (or the motors) of the sanding belt. This operation should be repeated after 450 working hours.
To perform adjustment, stop the machine and cut the power supply by moving the padlockable master switch to “0”. Loosen, but without fully removing, the motor retention nuts marked “B” (see Fig. ’), then lever between the motor and the support until correct tensioning is achieved. Work on one belt only with a force of 2/3 KG; this must not bend by more than 16 mm in the direction indicated by the arrow - see diagram. Finally retighten the nuts.
In the event of a single motor driving a pair of belts, the driving belts must be adjusted as uniformly as possible between the two different branches.
To do this, loosen the motor plate, unscrewing the retention nuts marked “C” (see Fig. ’), then move right or left until exact distribution is achieved.
To tension, make the adjustment described in the previous case.

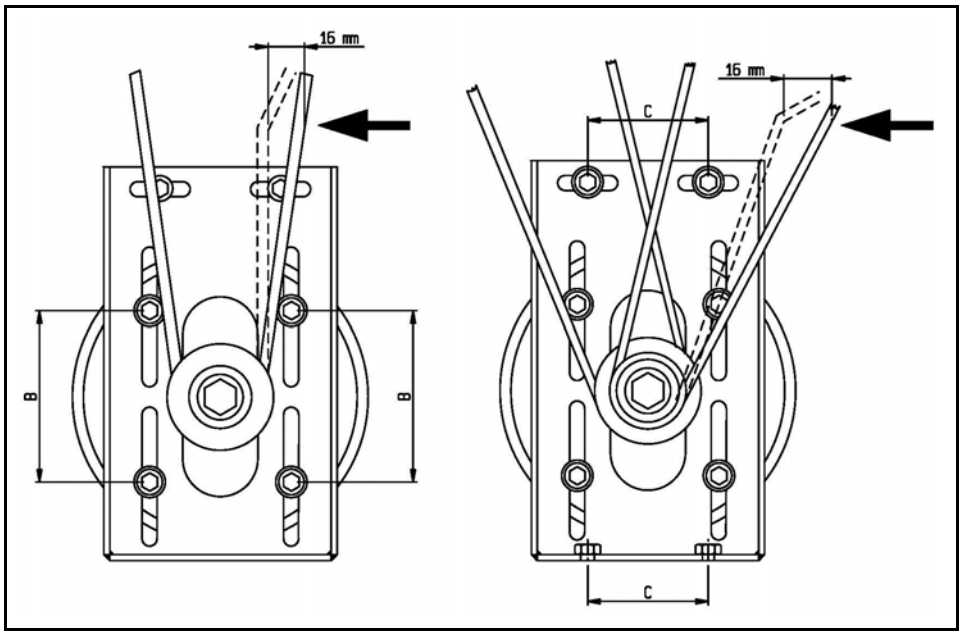


Fig. 5.4 Driving belts

5.1.7 Electric system maintenance

Maintenance of the electrical parts must be done by skilled personnel, with the machine stopped and with the permission of the Safety Manager.

Before doing any jobs, always interrupt the power supply, by turning the padlockable master switch to "0" and disconnecting the machine from the power mains.

No preventive maintenance can be performed on the electric system. Jobs can only be done when a fault occurs, if necessary by replacing the faulty part; reliability of the electric parts can however be increased by following a number of instructions:

All the motors feature circuit breakers adjusted to the rated current of the motor. Avoid switching on and off several times as this causes motor overheating and makes the circuit breaker ineffective;
Do not remove material to the extent that this requires more power than is installed;
Replace the faulty component parts with others having the same specifications;

- Set the circuit breakers at the rated current shown on the motor plate.

Periodically check the emergency buttons to determine their efficiency.

CHAPTER 6

DEFECTS: CAUSES, REMEDIES

INTRODUCTION

Transport, unloading and relevant positioning, incorrect use or lack of maintenance could cause problems that can be solved by following the instructions below.

Here is a list of the major problems that could affect the machine.

Before doing any jobs on the machine, disconnect it from the power mains and air supply. Never tamper with the emergency devices, mushroom-shaped buttons, fixed or moving guards.

6.0.1 Start

Tab. Q: START button does not work

CAUSES	REMEDIES
No electric power.	The main switch is cut off.
A low voltage fuse or not well tightened.	Check and if necessary replace it.
Air compression line is closed or pressure is below 4.5 atm.	Open the line and check the right pressure is showing on the pressure gauge marked (M)(see Fig.“FRL unit” page ’6’)
The mushroom-shaped STOP switches at the front and rear of the machine are pressed down or damaged.	Release them and if damaged change them.
Pneumatic air pressure safety switch (1) (see Fig.“Pneumatic pressure gauge” page ’9’) featuring oxidated contacts .	Replace it.

Tab. Q: START button does not work

CAUSES	REMEDIES
One of the emergency micro (see Fig.“Front emergency bar” page ’6’) (see Fig.“Micro switch” page ’6’) (see Fig.“Door side micro” page ’8’) is blocked or damaged.	Carry out a first check and establish the cause (misplacement of sanding belts, open doors, pieces of material touch the emergency bar, ect..) if it still does not work check with a tester if the microswitch is damaged and replace it.

Tab. R: Programming unit requires continous resetting

CAUSES	REMEDIES
The START button is damaged.	Replace it.
Power drops, including minor ones.	Fit a UPS unit (220 V-150W) on the programmer supply line.

6.0.2 Belt table

Tab. S: The belt table does not rise or lower

CAUSES	REMEDIES
One of the travel end microswitches on the digital display is blocked or broken. N.B. The machines equipped with this device feature the microswitches indicated with V.	Check the cause of the blockage and if necessary replace the microswitches, or disassembly the digital display and replace or repair it.

Tab. T: The conveyor belt does not start

CAUSES	Remedies
The protection cutout has blown, or a fuse is blown .	Replace the fuse and restore the cutout.

Tab. U: The belt conveyor slows down speed

CAUSES	REMEDIES
The feed belt does not move.	Tighten belt.

Tab. U: The belt conveyor slows down speed

CAUSES	REMEDIES
Excess removal or shoe clamps (where fitted) blocked or too low with reference to working height	Reduce removal, release or adjust the height of the shoe clamps.

6.0.3 Motors

Tab. V: The abrasive belt motors do not start

CAUSES	REMEDIES
The belt is missing or it is not tightened.	Fit the belt or tighten it.
The protection cutout has blown or a fuse has blown.	Restore the cutout and replace the fuse.

6.0.4 Blowers

Tab. W: The pneumatic oscillating blowers for the belt cleaning with manual starting do not deliver air

CAUSES	REMEDIES
Air is missing.	Open the air using the tap indicated by (R) “FRL unit” on page 6

Tab. X: They do not oscillate

CAUSES	REMEDIES
The flow regulators indicated by (R) “FRL unit” on page 6 are obstructed.	Turn the regulating screws,clean them, replace them regulating the air flow so as to obtain correct oscillation.

Tab. Y: The pneumatic oscillating blowers for the belt cleaning with manual starting do not deliver air

CAUSES	REMEDIES
The control system on the control panel is switched off.	Switch on the control system.
The microswitch indicated by (C) “Micro switch” on page 6 does not send the signal to the control system.	Check the cause, the fastening could be loosened or damaged, therefore restore according to problem.
The electric valve indicated by A (chap.8.2) does not receive the signal from the electronic system, or it is broken.	Search for the fault in the control unit.
No signal from the electronic unit is reaching the solenoid valve (blower unit) or this is faulty.	Valve solenoid faulty or solenoid valve worn. Replace.
The pneumatic control logic does not work.	Change the logic.
The circuit breaker could have tripped or the fuse has burnt out, (see wiring diagram).	Reset the circuit breaker and, if necessary, replace the fuse.

6.0.5 Oscillating system of the sanding belts

Tab. Z: The oscillation of one of the belts does not work

CAUSES	REMEDIES
The sensors of the optronic device with infra-red sensors (see “photocell” in “MACHINE COMMISSIONING” chap.) located inside the machine, are dirty. Problems are normally indicated by means of the control panel, which has the LED (4-5) or LED indicated by (32) (see “Control panels” “MACHINE COMMISSIONING" chap.)	Clean with compressed air.
A break down in the electronic device.	See tables defects,causes, remedies concerning electrical problems and diagrams.
The solenoid valve receives the exchange signal but the optronic device does not work.	There is no feeding due to the burnt fuse of 1 Amp. on the basic power line. Replace it because it is faulty.

Tab. Z: The oscillation of one of the belts does not work

CAUSES	REMEDIES
The pneumatic cylinder is blocked or does not work regulary.	Manualy unblock it, check that the flow regulators are not obstructed, that lubricated air arrives to them, and that the packing does not become sealed again.

Tab. AA: The oscillating device of the belts works but the belt/s tend to still come out of place

CAUSES	REMEDIES
Belts are not suitable or have construction faults See “QUALITY OF SANDING BELTS” on page 22..	Replace it/them.
Belts by a new supplier have a taper side different to the preceeding ones.	The centering needs to be set according to the new belt See “Sanding belt centering and traverse” on page 24..

6.0.6 Polishing and brush units

Tab. AB: The polishing units and panel brushes or surface table brushes do not start, or their rotation is slowed down

CAUSES	REMEDIES
Interference of the protection cutout, burnt fuse or slack belt.	Restore the protection cutout, replace the fuses, thigten the belt.

6.0.7 Suction of vacuum table

Tab. AC: The suction for the vacuum table does not work

CAUSES	REMEDIES
The cutout protection is blown, or the fuses are blown.	Restore the protection and replace the fuses.

6.0.8 Belts tensioning rollers

Tab. AD: The belt-stretcher idle roller does not drop.

CAUSES	REMEDIES
The pneumatic pressure is faulty.	Adjust according to the working use using the reducer.

Tab. AE: It elevates but despite the pneumatic pressure being correct it does not become tant

CAUSES	REMEDIES
The sealing rings of the pneumatic cylinder for the tensioning are worn.	Check putting a few drops of oil on the outlet of the shaft, then open the air, if there are bubbles, the sealing needs to be replaced.

Tab. AF: The roller does not lower

CAUSES	REMEDIES
The air-choke placed behind the switch is blocked or not in order	Turn the four screws which fix the plate, then turn the head of the air choke so that it is freed of any inpurity, reset the lowering regulation, being careful that this takes place slowly, without any violent impact at the end run

6.0.9 Pad

Tab. AG: The pad unit does not lower or does not carry out the lowering or the elevation regulary

CAUSES	REMEDIES
The control system “Pneumatic pad and timed roller control unit.” on page 9 is switched off.	Switch on.
If you are working without using the first belt you could have placed the belt table too low, therefore preventing that the piece being worked triggers the micro-switch indicated by (A) “Front emergency bar” on page 6.	Check and if necessary lift the work table until the piece to be worked is not positioned 5/6 dcm lower than the working edge of the first belt.

Tab. AG: The pad unit does not lower or does not carry out the lowering or the elevation regulary

CAUSES	REMEDIES
The solenoid valve of the pad unit indicated on the electrical diagram does not work.	Replace it.
With the machine switched on (5-6-7-11-12) “Pneumatic pad and timed roller control unit.” on page 9 pad control ist switched off.	Replace the control system.
Control system damaged.	Replace it.

6.0.10 Defects on workpieces

Tab. AH: Work pieces are not perfectly finished with ribs irregularly spaced lenghtsway and crosswise, distances vary from 7 to 14 mm

CAUSES	REMEDIES
Defective belt joints.	Make sure joints are thinner then belt “Sanding belts” on page 23.
Belts are blocked despite the use of the blowers.	Check and if necessary empty condensate filter, use belts appropriate to the type of work material.
The graphit belt is very dirty or worn.	Check and if necessary empty condensate filter, use belts appropriate to the type of work material “Pneumatic connection” on page 5.
The blowers have clogged nozzles.	Clean them.
The graphit belt is very dirty or worn.	Extract the belt and clean the external and internal parts, check also that the felt is not damaged or that there aren’t any dust particles stuck to it, clean with compressed air.
Panels with metal points or nails which have damaged the belt (the defects occur even with one nail or at a certain metal point).	Hammer the metal parts until they do not stick out from the panel.

DIAGRAMS AND PARTS LIST

7.1 WIRING DIAGRAM

See wiring diagram on the last pages of this manual.

7.1.1 On-board components PRIMA 630 and 970

Simbol	Description	Purchase code
SQ6	Emergency bar limit switch	5.22.08.04.0015
SQ7	Left front door limit switch	5.22.08.20.0003
SQ8	Right front door limit switch	5.22.08.20.0003
SQ10	Rear emercency limit switch	5.22.08.01.0020
SQ12	Automatic table positioning limit switch	5.22.07.03.0012
SQ14	Timed blower limit switch	5.22.07.14.0012
SQ1T/S	Piece inlet/outlet limit switch 1 (optional)	5.22.07.14.0012
SQ1T/D	Piece inlet/outlet limit switch 2 (optional)	5.22.07.14.0012
YV1	Brake solenoid valve	5.19.09.00.0190
YV2	Brake solenoid valve	5.19.09.00.0190
YV3	Belt 1 travel solenoid valve	5.20.00.00.0017
YV5	Belt 2 travel solenoid valve	5.19.09.00.0096

Simbol	Description	Purchase code
YV6	Pad 1 raising/lowering solenoid valve (optional)	5.19.09.00.0191
YV7	Pad 1 raising/lowering solenoid valve (optional)	5.19.09.00.0190
YV8A	Pad 1 solenoid inflating inner tube (optional)	5.20.00.00.0020
YV8B	Pad 1 solenoid inflating inner tube (optional)	5.20.00.00.0020
YV9	Pad 1 prebending solenoid valve (optional)	5.19.09.00.0191
YV10	Pad 1 prebending solenoid valve (optional)	5.19.09.00.0190
YV13	Pad 2 raising/lowering solenoid valve (optional)	5.19.09.00.0191
YV14	Pad 2 raising/lowering solenoid valve (optional)	5.19.09.00.0190
YV15A	Pad 2 solenoid inflating inner tube (optional)	5.20.00.00.0020
YV15B	Pad 2 solenoid inflating inner tube (optional)	5.20.00.00.0020
YV16	Pad 2 prebending solenoid valve (optional)	5.19.09.00.0191
YV17	Pad 2 prebending solenoid valve (optional)	5.19.09.00.0190
YV18	Belt 1 blower solenoid valve open air (optional)	5.19.09.00.0190
YV19	Belt 2 blower solenoid valve open air (optional)	5.19.09.00.0190
YV41	Roller 1 electropneumatic device solenoid valve	5.19.09.00.0191
YV42	Roller 1 electropneumatic device solenoid valve	5.19.09.00.0190
YV43	Roller 2 electropneumatic device solenoid valve	5.19.09.00.0191
YV44	Roller 2 electropneumatic device solenoid valve	5.19.09.00.0190
YV51	Belt 1 blower cylinder solenoid valve	5.19.09.00.0191
YV52	Belt 1 blower cylinder solenoid valve	5.19.09.00.0190
YV53	Belt 2 blower cylinder solenoid valve	5.19.09.00.0191
YV54	Belt 2 blower cylinder solenoid valve	5.19.09.00.0190
SP10	General delivery pressure switch	5.21.01.02.0010
BP1	Belt 1 pressure switch	5.21.01.02.0020
BP2	Belt 2 pressure switch	5.21.01.02.0010
B1	Belt 1 travel photoelectric cell	5.42.03.00.0006
B2	Belt 2 travel photoelectric cell	5.42.03.00.0006
HL3	Belt 1 travel led	5.22.00.00.0036
HL4	Belt 2 travel led	5.22.00.00.0036
R1	Linear potentiometer for display	5.22.18.12.0200
AP0	Interface for encoder	5.42.09.06.0010
AP1	Position display	5.42.01.01.0002

Simbol	Description	Purchase code
AP2	Pad/roller 1 raising/lowering timer (optional)	5.42.00.00.0001
AP3	Pad/roller 2 raising/lowering timer (optional)	5.42.00.00.0001
AP5	Blower raising/lowering timer (optional)	5.42.00.02.0013

7.1.1.1 Optionals

Table 35: With automatic positioning table

Symbol	Description	Purchase code
SQ11	Automatic table raisinig limit switch	5.22.07.03.0012
SQ12	Automatic table positioning limit switch	5.22.07.03.0012
SQ13	Automatic table lowering limit switch	5.22.07.13.0022

Table 36: With feed belt variator speed

Symbol	Description	Purchase Code
AP4	Pad 1 raising/lowering control system	5.22.00.02.0001
AP5	Pad 2 raising/lowering control system	5.22.00.02.0001

7.2 PNEUMATIC DRAWING

See pneumatic drawing on last pages of this manual.

7.3 MARKETING

7.3.1 Battery element N.C./N.A.

See battery pages on spare parts manual.

7.3.2 5-way solenoid valve SINGLE

1-belt machine oscillation.

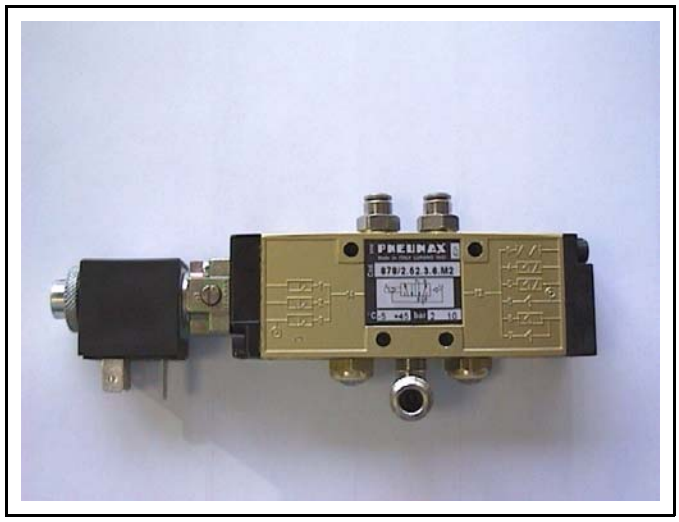


Fig. 7.1 Code 52000000017

7.3.3 5-way solenoid valve DOUBLE

2-belt machine oscillation.

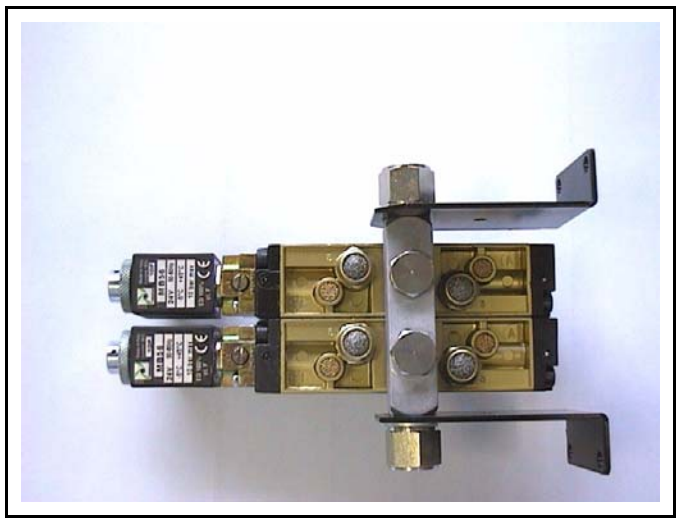


Fig. 7.2 Code 51909000096

7.3.4 5-way solenoid valve TRIPLE

3-belt machine oscillation.

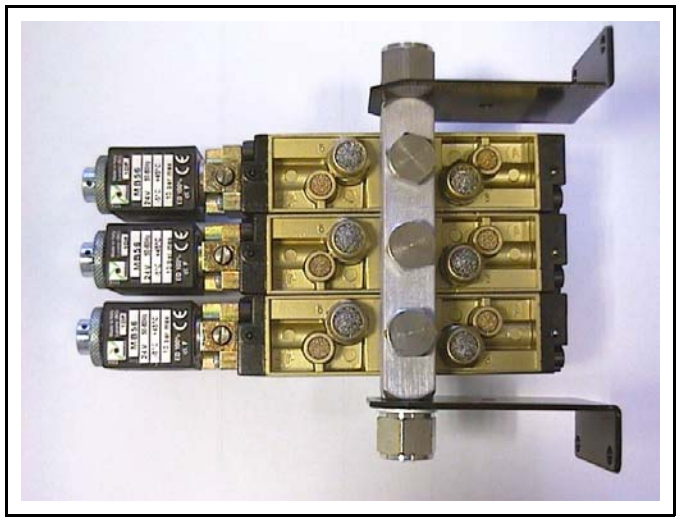


Fig. 7.3 Code 51909000095

7.3.5 Pneumatic distribution control system

See pages pneumatic battery on spare parts manual.
Refer to the wiring diagram to see which component part corresponds to the cable number shown on the installed battery elements.

NOTE: THE BATTERY CAN BE OF 9-7-5-3 POSITION ACCORDING TO THE MODEL OF THE MACHINE.

CHAPTER 8

TECHNICAL DATA

8.1 PRIMA 630

8.1.1 Overall dimensions

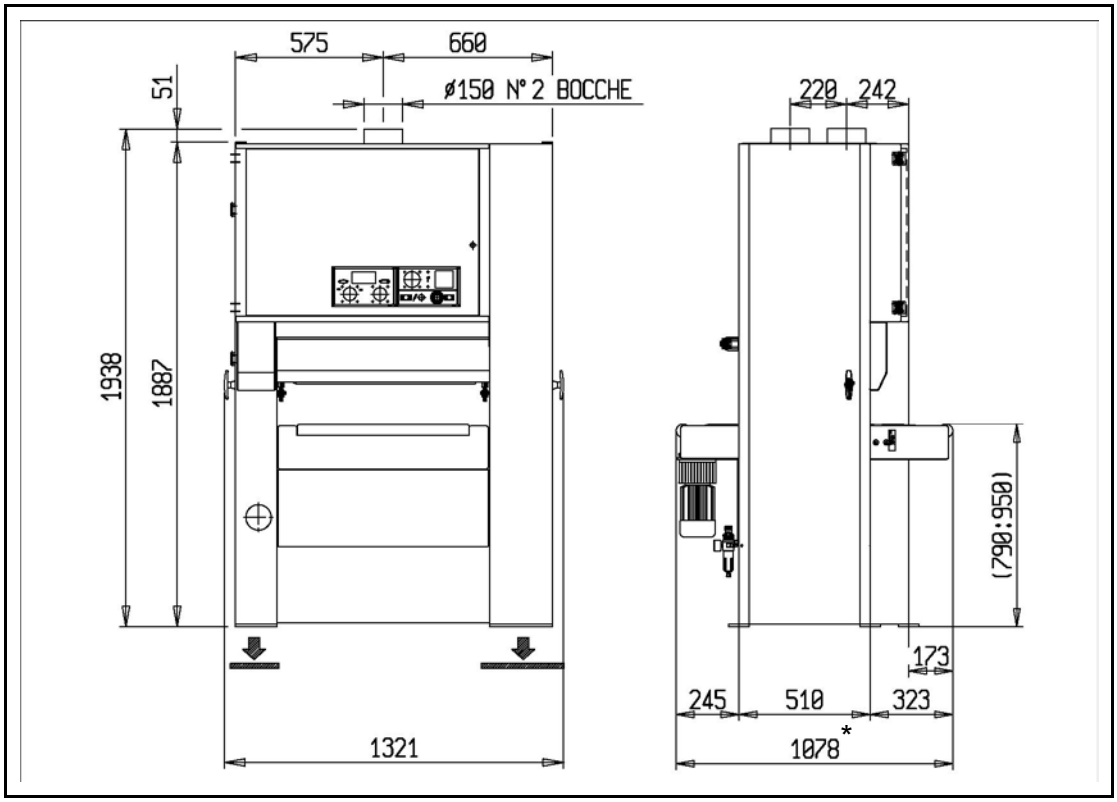


Fig. 8.1 Mesurements

As indicated by the * (asterisk) alongside the overall dimension measurement expressed in mm (vedere Fig. 'Mesurements' pagina 139), consider an extra measurement of **280 mm** (140 mm on either side) in the event of the **2nd roller** being fitted to extend the roller conveyor.

Technical Specifications:

Working width	630 mm
Working height	160 mm
Minimum working height	3 mm
Belt width and length	650x1900 mm
Table lifting motor power	0.16 HP
Feed belt motor power	0.20/0.38 HP
Feed belt speed	4/8 mt/1'

Table 37: Standard specification for each model

	K	RR
Diameter 1st roller	120 mm	170 mm
Diameter 2nd roller	-	170 mm
Hardness 1st belt	85 SH	85 sh
Hardness 2nd belt	-	30/35 SH
Belts motor	5,5 HP	7,5 HP
Minimum working lenght on the 1st belt	404 mm	223 mm
Minimum working lenght on the 2nd belt	-	223 mm
Dia. 150 mm extraction hoods	N° 1	N° 2

8.2 PRIMA 970

8.2.1 Overall dimensions

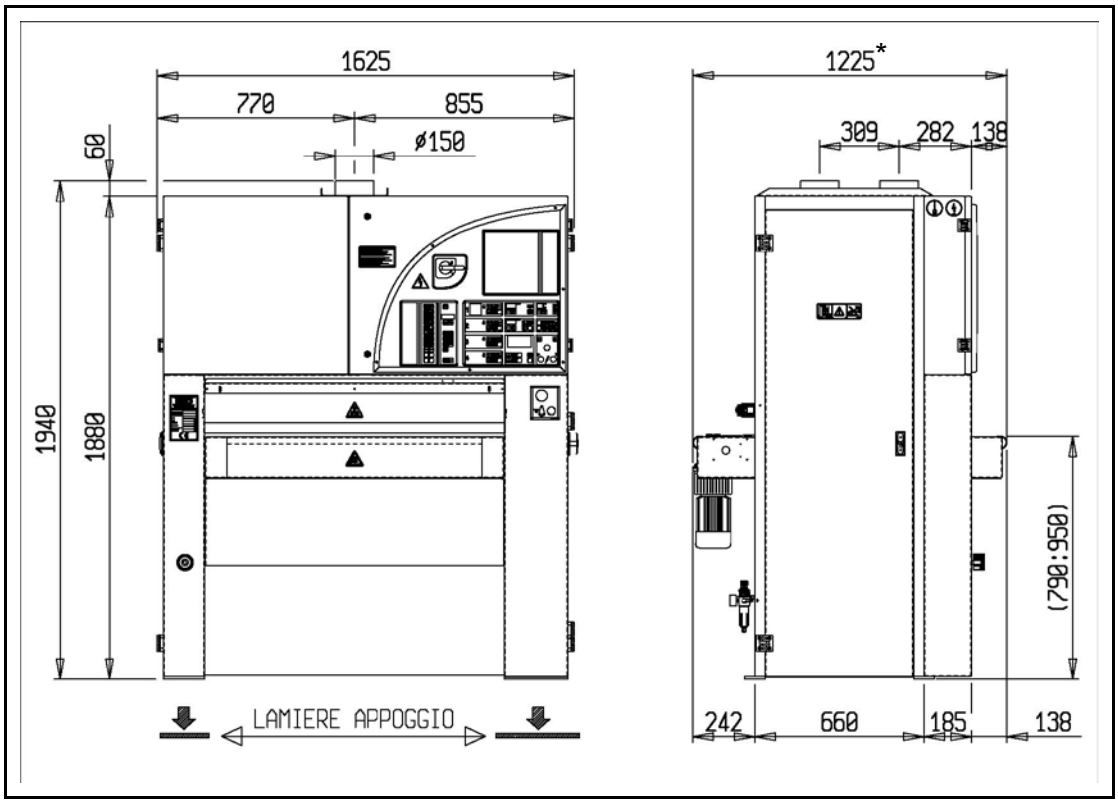


Fig. 8.2 Mesurement

As indicated by the * (asterisk) alongside the overall dimension measurement expressed in mm (vedere Fig. 'Mesurement' pagina 141), consider an extra measurement of **280 mm** (140 mm on either side) in the event of the **2nd roller** being fitted to extend the roller conveyor.

Technical Specifications:

Working width	970 mm
Working heigth	160 mm
Minimum working height	8 mm
Belts width and length	990x1900 mm
Table lifting motor power	0.16 HP
Feed belt motor power	0.2/0.38 HP
Feed belt speed	4/8 mt/1'

Table 38: Standard specifications for each model

	K	RR	RT	RK
Diameter 1st roller	120 mm	170 mm	170 mm	170 mm
Diameter 2nd roller	-	170 mm	-	120 mm
Hardness 1st roller	85 SH	85 sh	85 SH	85 SH
Hardness 2nd roller	-	30/35 SH	-	65 SH
Belts motor power	7,5 HP	10 HP	10 HP	10 HP
Minimum working lenght on the 1st belt	404 mm	238 mm	215 mm	215 mm
Minimum working lenght on the 2nd belt	-	238 mm	310 mm	310 mm
Dia. 150 mm extraction hoods	N° 1	N° 2	N° 2	N° 2

8.3 SMART 1100

8.3.1 Overall dimensions

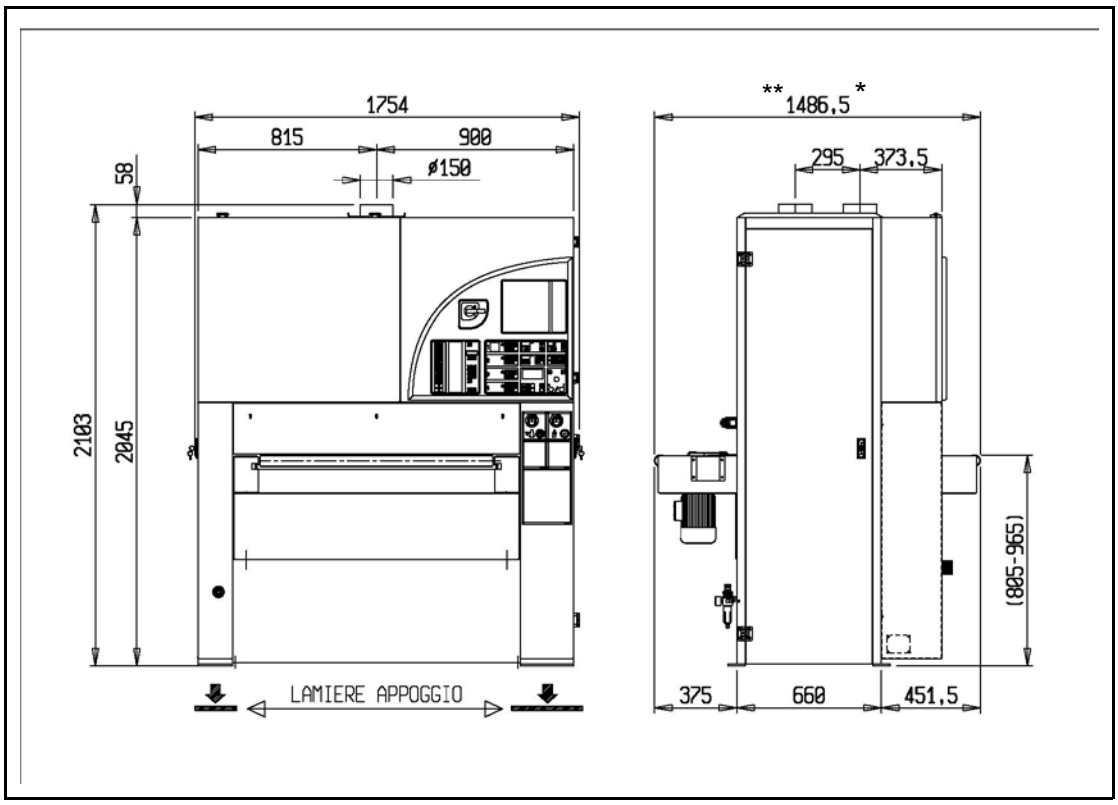


Fig. 8.3 Mesurements, one motor power

As indicated by the * (asterisk) alongside the overall dimension measurement expressed in mm (vedere Fig. 'Mesurements, one motor power' pagina 143) (vedere Fig. 'Mesurement, 2 motors power (optional)' pagina 144), consider an extra measurement of **280 mm** (140 mm on either side) in the event of the **2nd roller** being fitted to extend the roller conveyor.
As indicated by the double ** (asterik) along side the overall dimension measurement expressed in mm, consider an extra measurement of **200 mm** in the event of the panel cleaning brush placed over the machine on the rear front.

Technical specifications:

Working width	1100 mm
Working height	160 mm
Minimum working height	8 mm
Belt width and length	1130x2200 mm
Table lifting motor power	0.6 HP
Feed belt motor power	0.2/0.75 HP
Feed belt speed	4/8 mt/1'

Table 39: Standard specifications for each model

	K	RR	RT	RK
Diameter 1st roller	120 mm	170 mm	170 mm	170 mm
Diameter 2nd roller	-	190 mm	-	120 mm
Hardness 1st roller	85 SH	85 sh	85 SH	85 SH
Hardness 2nd roller	-	30/35 SH	-	65 SH
Belts motor	10 HP	12,5 HP	12,5 HP	12,5 HP
Minimum working lenght on the 1st belt	400 mm	238 mm	215 mm	215 mm
Minimum working lenght on the 2nd belt	-	238 mm	310 mm	310 mm
Dia. 150 mm extraction hoods	N° 1	N° 2	N° 2	N° 2

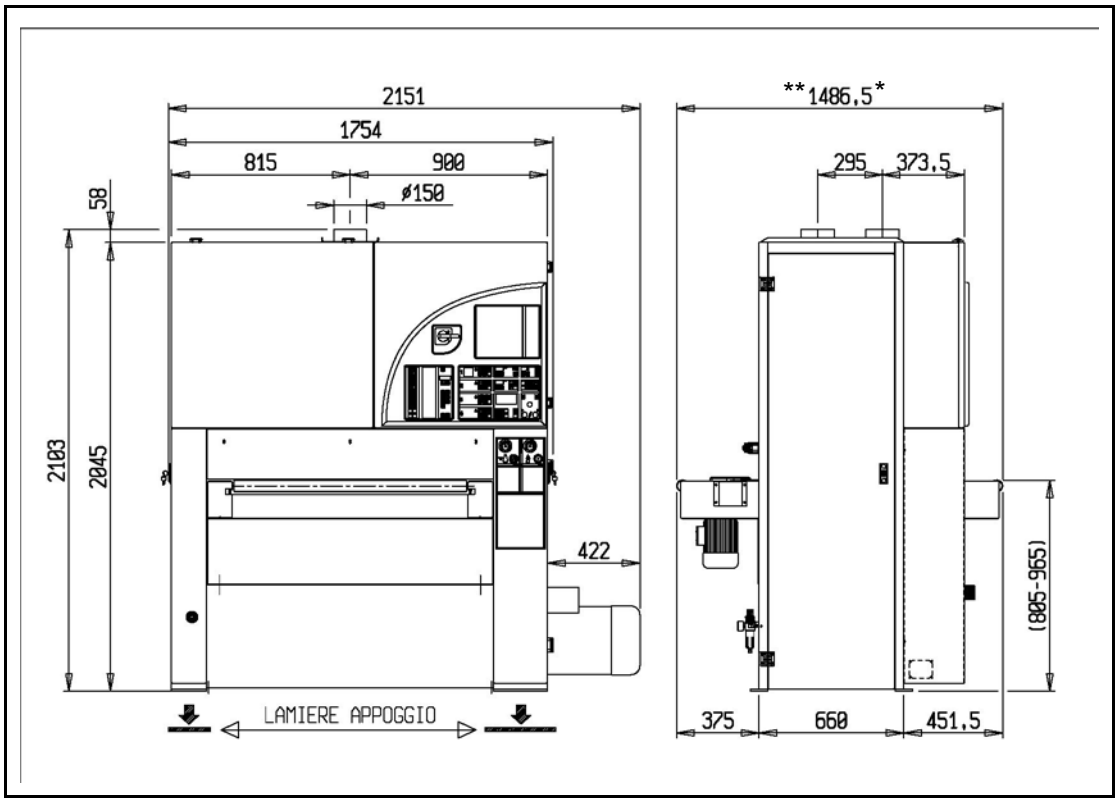


Fig. 8.4 Mesurement, 2 motors power (optional)

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