

WOODWORKING MACHINERY



MANUAL code n°. 00008085 EDITION 12/2008

MACHINE CODE n°. 16552100
SERIAL n°.



PLEASE KEEP THIS MANUAL ALWAYS TOGETHER WITH THE MACHINE

BORING SYSTEM BS240 - 4V

USE AND MAINTENANCE MANUAL



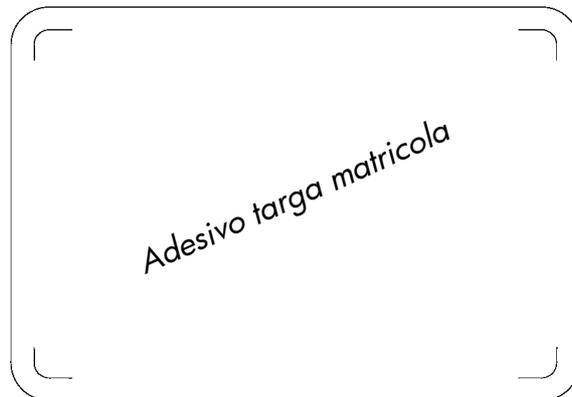
EC Declaration of Conformity

The manufacturer

Maggi Engineering S.r.l.
Via delle Regioni, 299 - 50052 Certaldo (FI) ITALY

Declares that the machinery

<i>that the machinery</i>	<i>BORING MACHINE</i>
<i>model type</i>	<i>16552101 BORING SYSTEM 240</i>
<i>serial number</i>	
<i>year of manufacture</i>	



complies with all relevant provisions of the directive:

2006/42/EC **(Machine)**
2004/108/EC **(EMC)**

and compile the technical file of the above machinery.

Certaldo
The General Manager



WE WISH TO THANK YOU FOR CHOOSING ONE OF OUR PRODUCTS

All the information, advices and important warnings for a correct use of the machine, have been inserted into this manual. This manual also contains the rules for a correct periodical maintenance to keep this machine in perfect efficiency. We suggest that all the chapters of this manual are thoroughly read before you use the machine for the very first time.

INTRODUCTION

Some information and illustrations in this manual may differ from the machine in your possession, since all the configurations inherent in the machine complete with all the OPTIONALS are described and illustrated. Therefore, refer only to that information strictly connected with the machine configuration you have purchased. The manufacturer in his pursuit of a policy of constant development and updating of the product may make any modifications without any prior notice.

This manual has been drawn up exclusively for our customers' use, guaranteeing that at the date of issue it constitutes the latest update of the documentation related to use of the product. Use of this manual is on full responsibility of the user. The manufacturer does not grant any further guarantee for any imperfections, incompleteness and/or operating difficulties, expressly excluding any responsibility for direct or indirect damage deriving from use of this documentation. MAGGI ENGINEERING reserves the right to make any modifications to the product described in this manual at any time without prior notice.

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GENERAL INFORMATION ABOUT THE MANUFACTURER

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1. SAFETY RULES AND GENERAL INFORMATION

1.1 RECOMMENDATION FOR USE AND MAINTENANCE

In this manual we put into evidence all the operations for a correct use and ordinary maintenance of the machine.

We strongly recommend not to make any other type of work repair or operation not suggested in this manual. We suggest also to keep this manual in a place where the user can easily find and read it.



ANY ADULTERATION OR REMOVAL OF SAFETY PROTECTION DEVICES CAN CAUSE SEVERE DAMAGE. ANY REMOVAL, EXCLUSION OR MODIFICATION OF THESE DEVICES IS STRICTLY FORBIDDEN. YOU MUST VERIFY AND GUARANTEE THE PERFECT RUNNING OF SAFETY DEVICES BY MEANS OF PERIODIC CHECKS. ANY DEFECT OR PROBABLE DRAWBACK MUST BE IMMEDIATELY RESOLVED.

1.2 MACHINE IDENTIFICATION

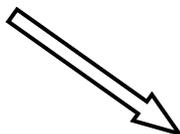
The data impressed in the plate placed on the left side of the machine (from the point of view of the operator) identify the machine itself.

When you eventually order spare parts or ask for any suggestions for use or maintenance, you have always to transmit the model type and identification number contained in the plate.

It is absolutely forbidden to remove the plate or modify the data it contains.

The following identification plate is placed on the boring system machine described into this manual:

			
Via delle Regioni, 299 50052 Certaldo (FI) Italy		MADE IN ITALY	
TYPE:			
SERIAL N°:			
YEAR:			
V:	PH:	HZ:	
KW:	A:		



2. OPERATIVE NOTES

WOODWORKING MACHINES CAN BE DANGEROUS

- 1) To operate the machine safely and correctly, follow the indications contained in this manual carefully and scrupulously.
- 2) The machine will have to be operated only by personnel who is both qualified and over 18. People responsible for safety should make sure that the machine operator has read and fully understood all the information contained in this manual.
- 3) Maintenance interventions must be carried out only by personnel who is both qualified and over 18.
- 4) Personnel responsible for routine and extraordinary servicing must have a good knowledge of mechanics and electronics.
- 5) Keep away from any moving part in the machine.
Never touch the spindles and /or the drills when the machine is operational.
- 6) Never superimpose wood pieces to be worked. Always bore one piece at a time, after having adjusted the machine correctly.

Before any use you must follow the instructions below:

- Check the wear status of the drills
- We suggest always to change any worn drills before using the machine

SAWDUST REMOVAL

The removal of sawdust and wood scrap, has to be effected in accordance to the current rules of the country where the machine is installed.

We suggest to ask the qualified body of the country where the machine is installed for the rules concerning this removal to know exactly how to behave properly.

3. DESCRIPTION OF THE MACHINE

The machine BS240 is a multiple semi-automatic boring machine designed and built to make holes on wood at a fixed distance of 32 mm (with maximum accuracy) between each centre.

The machine in its basic configuration consists of two horizontal head units and four vertical head units. The vertical head units and the right horizontal head unit (located on the right side of the machine respect to the operator's point of view) move manually and slides on prismatic guides and runner blocks along the longitudinal direction (X-axis). There is a pneumatic breaking system on each unit to block it once in position. There is a digital display on each mobile unit where the current position of the unit is showed.

On every vertical head unit there are two head group able to be moved manually and independently along the transversal direction (Y-axis): a digital counter show the current position of each head on the unit. Each head can also rotate 0°-90° respect to the vertical axis.

The operator can regulate the position of the mobile units (longitudinally), the position of the horizontal head groups (vertically), the position of each vertical head group transversally, the drilling depth.

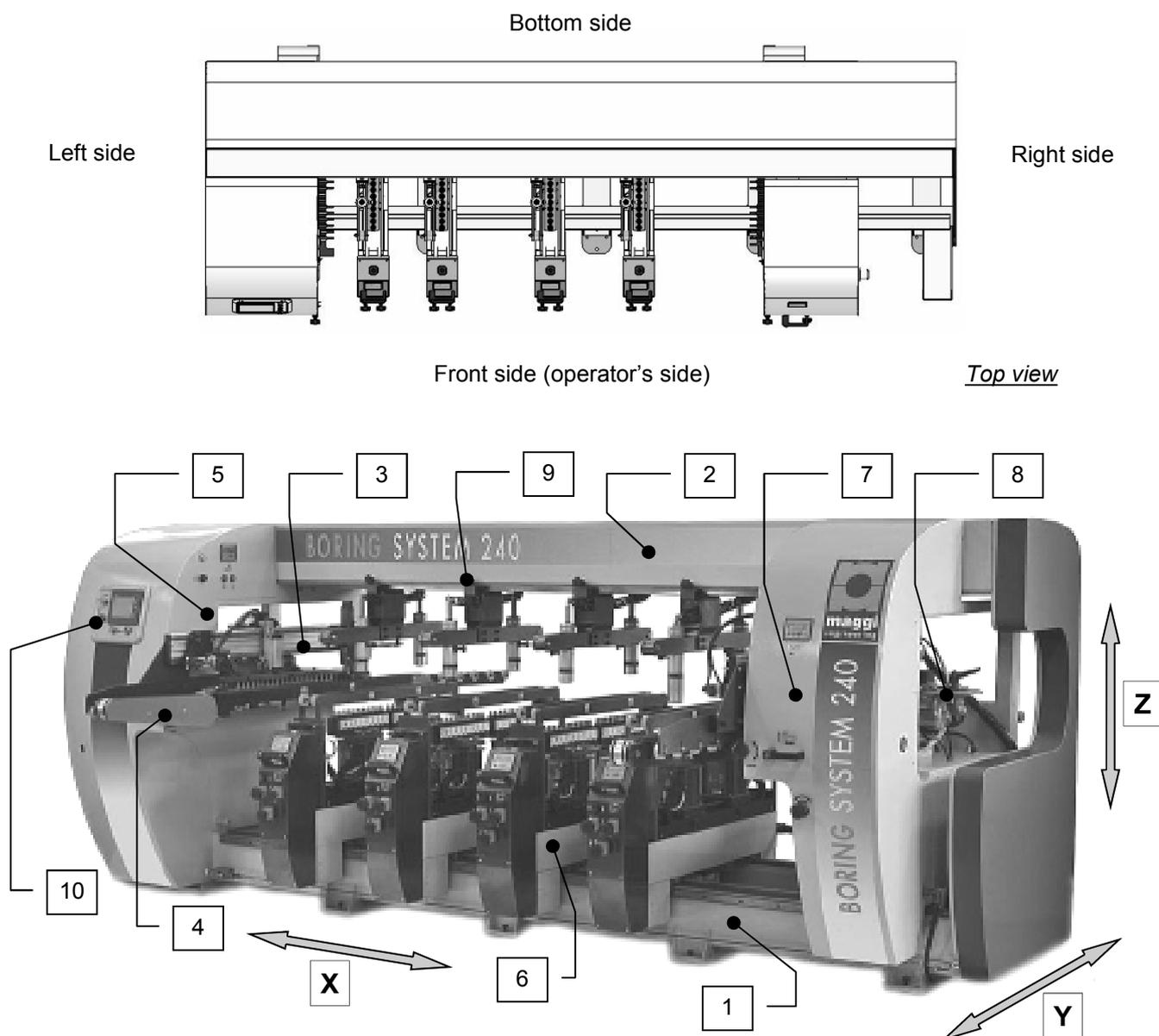
The operator stays in front of the machine and loads the workpieces to be drilled on to an automatic feeding belt unit.

All the drilling operations and the loading/unloading operations are controlled by a control PLC-based unit installed on the machine.

The machine is composed of the following main parts (please see the figures in the following page):

- A steel frame
- Two horizontal head units (one fixed and the other movable along the longitudinal direction) equipped with an electromechanical system for vertical regulating the spindle position and the patented "Spiral System" device for adjusting the drilling depth
- Four vertical head units capable to be moved along the longitudinal direction, sliding on runner blocks and equipped with an electronic digital counter and micrometric system for the head position. On each unit there are two independent head unit, each one with its own transmission and power system, that can be moved transversally and tilted from 0° up to 90°
- Pressing units to block the workpiece
- Loading/unloading unit
- Aluminium fence holding reference stops, pneumatic pushing cylinder and additional pressers for a quick and safe positioning of the panel to be drilled
- Control panel to control all the drilling operations and the loading/unloading operations via PLC
- Pneumatic system to position and feed the heads

3.1 MACHINE PARTS



POS.	NAME
1	BED UNIT (FRAME)
2	UPPER BEAM
3	FENCE HOLDING THE REFERENCE STOP, THE PUSHING CYLINDER AND THE ADDITIONAL PRESSING UNITS
4	LOAD/UNLOAD WORKPIECE DEVICE (BELT FEEDING UNIT)
5	LH HORIZONTAL HEAD UNIT
6	VERTICAL HEAD UNIT
7	MOBILE HORIZONTAL HEAD UNIT (RH)
8	RH HORIZONTAL HEAD UNIT
9	PRESSING UNIT
10	CONTROL PANEL

Two mobile emergency columns equipped with a mushroom emergency stop button are connected to the

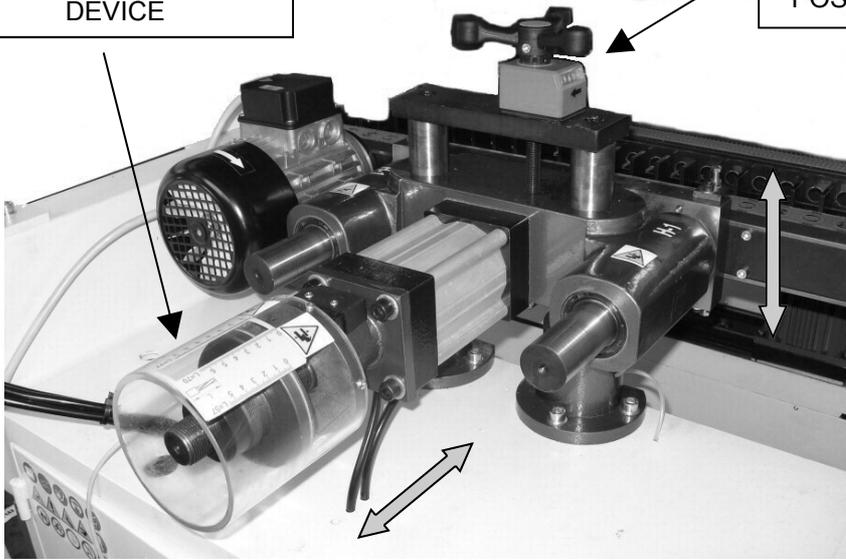
THE EMERGENCY COLUMN HAS TO BE PUT ALWAYS CLOSE TO THE WORKING POSITION, IN A PLACE WHERE THE OPERATOR CAN RAPIDLY AND EASILY REACH IT, IN CASE OF EMERGENCY

3.2 HORIZONTAL HEAD UNIT

DRILLING DEPTH SET-UP DEVICE

MECHANICAL SYSTEM FOR SETTING UP THE VERTICAL POSITION OF THE DRILLS

HEAD UNIT

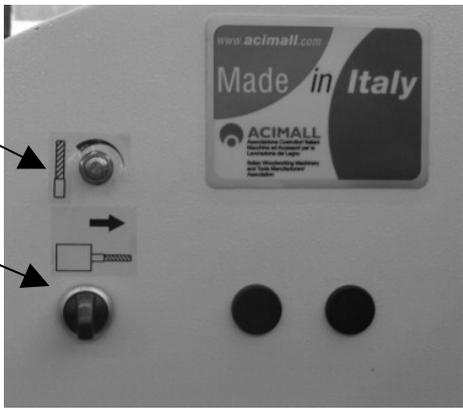


The set-up for each horizontal head is made operating on a dedicated control panel placed in the internal part of each head unit (please see the figure below)



HORIZONTAL FEEDING SPEED REGULATOR

HORIZONTAL HEAD FEEDING COMMAND SELECTOR



To adjust the position of the horizontal head mobile unit (RH) you have to operate on the moving knob and on the lock/unlock handle placed in the front side of the unit (please see the figure below)

HORIZONTAL HEAD MOBILE UNIT (RH)

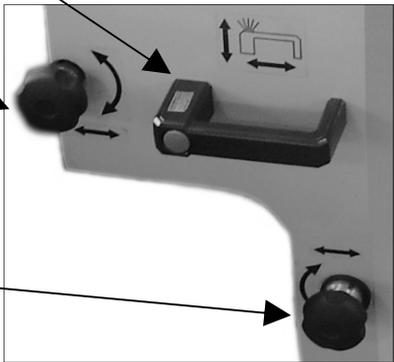
X AXIS POSITION DISPLAY



X-AXIS MOVEMENT LOCK/ UNLOCK HANDLE

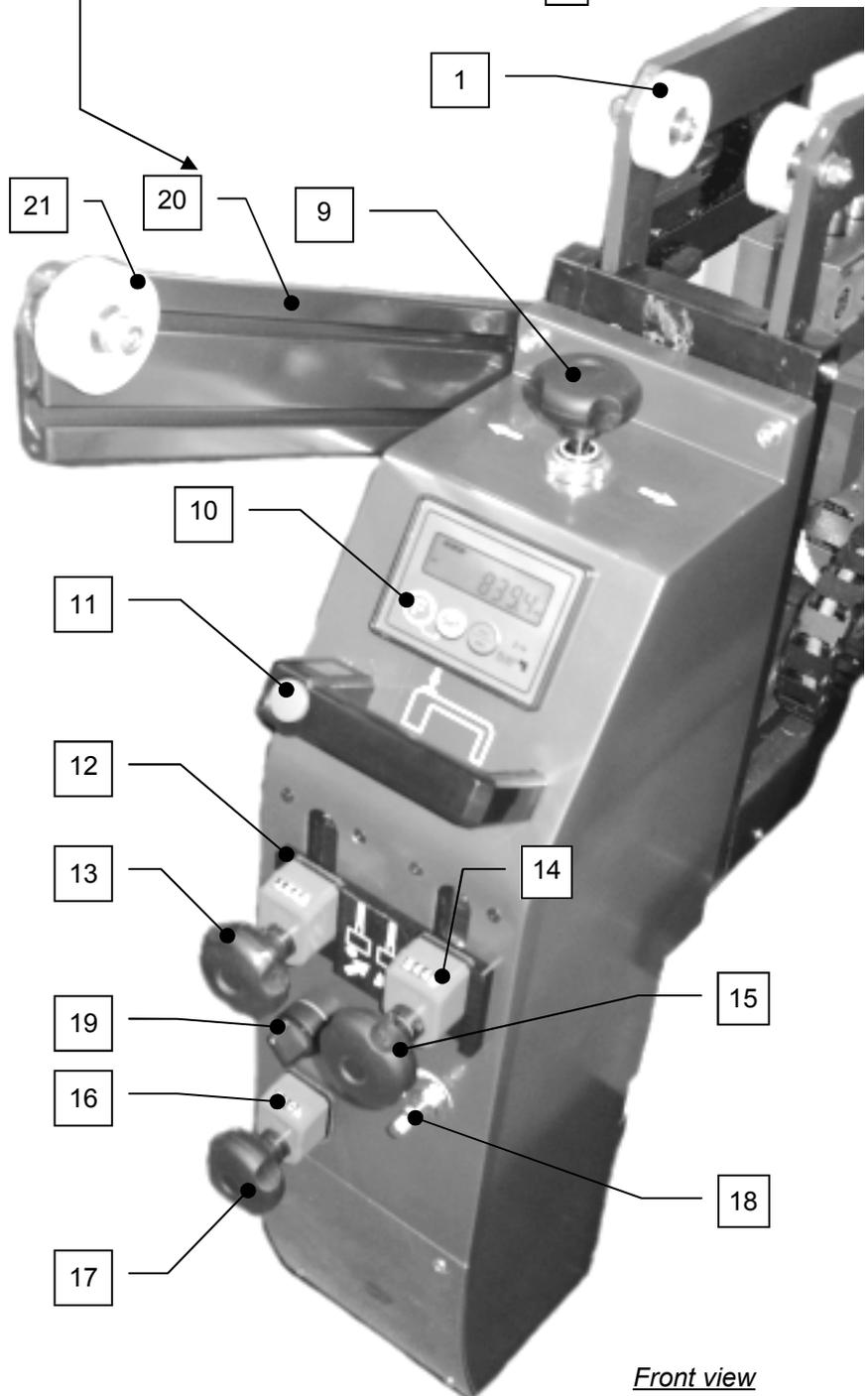
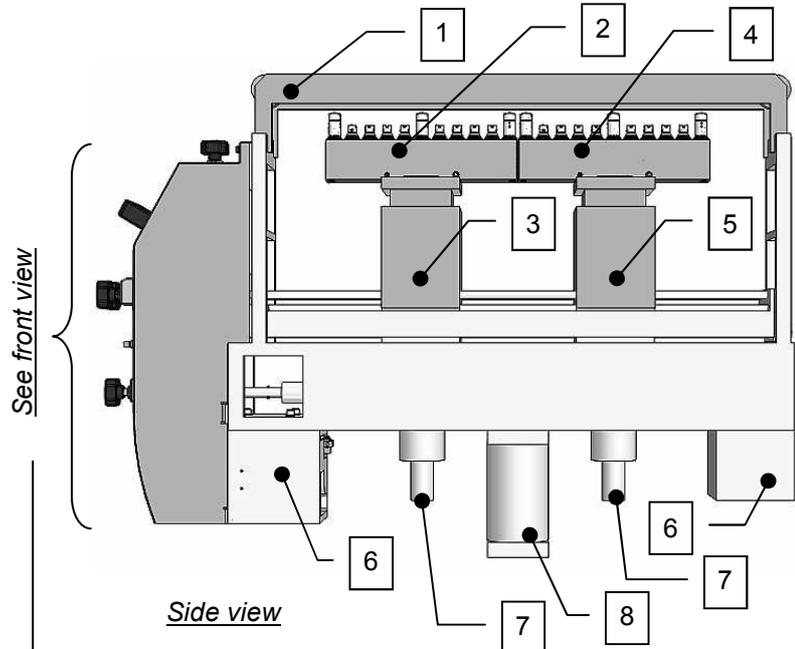
BELT FEEDING UNIT POSITION (X-AXIS) KNOB REGULATOR

X-AXIS MOVEMENT HANDLE



3.3 VERTICAL HEAD UNIT

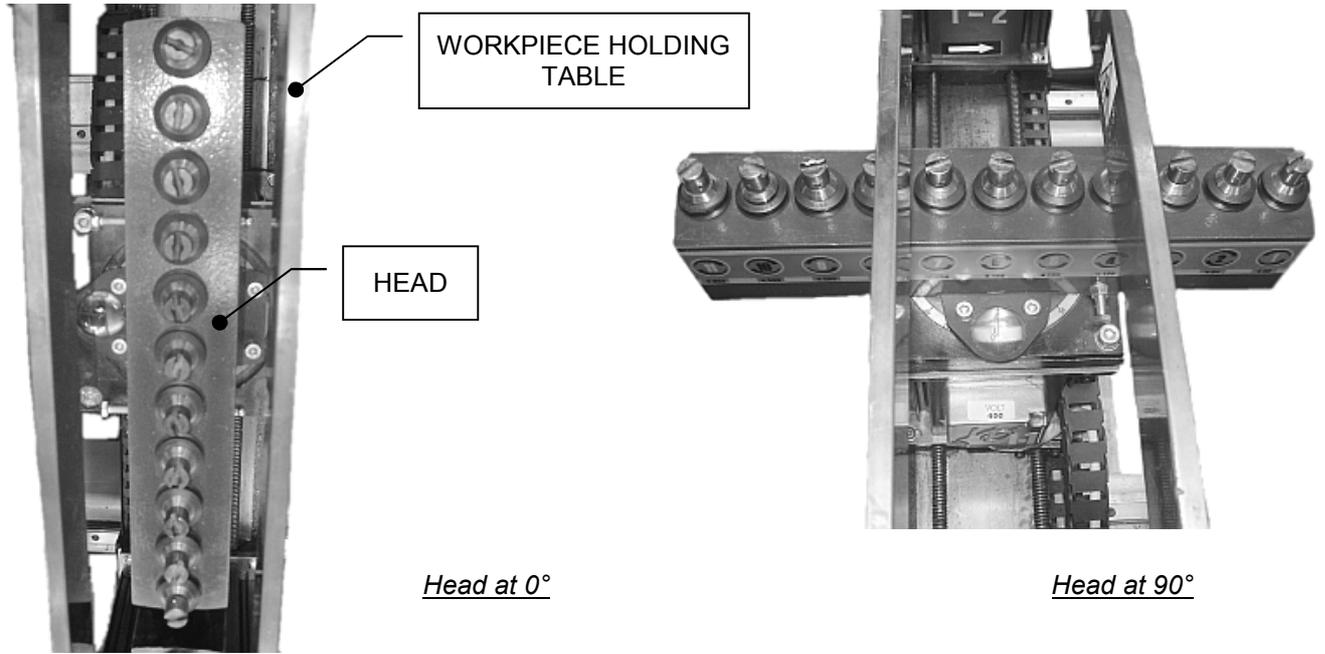
n°	Description
1	WORKPIECE HOLDING TABLE
2	FRONT 11-SPINDLES HEAD
3	FRONT HEAD MOTOR
4	BOTTOM 11-SPINDLES HEAD
5	BOTTOM HEAD MOTOR
6	PNEUMATIC BRAKE
7	VERTICAL GUIDING SHAFT
8	HEADS FEEDING CYLINDER
9	PRECISION X-AXIS POSITION SET-UP KNOB
10	X-AXIS POSITION DISPLAY
11	X-AXIS MOVEMENT LOCK/UNLOCK HANDLE
12	BOTTOM HEAD POSITION DISPLAY
13	BOTTOM HEAD POSITION HANDLE
14	FRONT HEAD POSITION DISPLAY
15	FRONT HEAD POSITION HANDLE
16	DRILLING DEPTH DISPLAY
17	DRILLING DEPTH SET-UP HANDLE
18	DRILLING HEAD FEEDING SPEED REGULATOR
19	DRILLING HEAD FEEDING COMMAND SELECTOR
20	PANEL SUPPORT ARM (ONLY ON THE TWO VERTICAL HEAD UNIT IN THE MIDDLE OF THE MACHINE)
21	SLIDING WHEEL (ONLY ON THE TWO VERTICAL HEAD UNIT IN THE MIDDLE OF THE MACHINE)



Drill Length	Drilling Depth	Drilling Depth
0	000.0	987.5
5	005.0	992.5
10	010.0	997.5
15	015.0	002.5
20	020.0	007.5
25	025.0	012.5
30	030.0	017.5
35	035.0	022.5
40		027.5
45		032.5
50		
55		

Drilling depth table: adhesive plate with the correct drilling depth values for drills of different lengths (see point 16 and point 17 in the figure on the right)

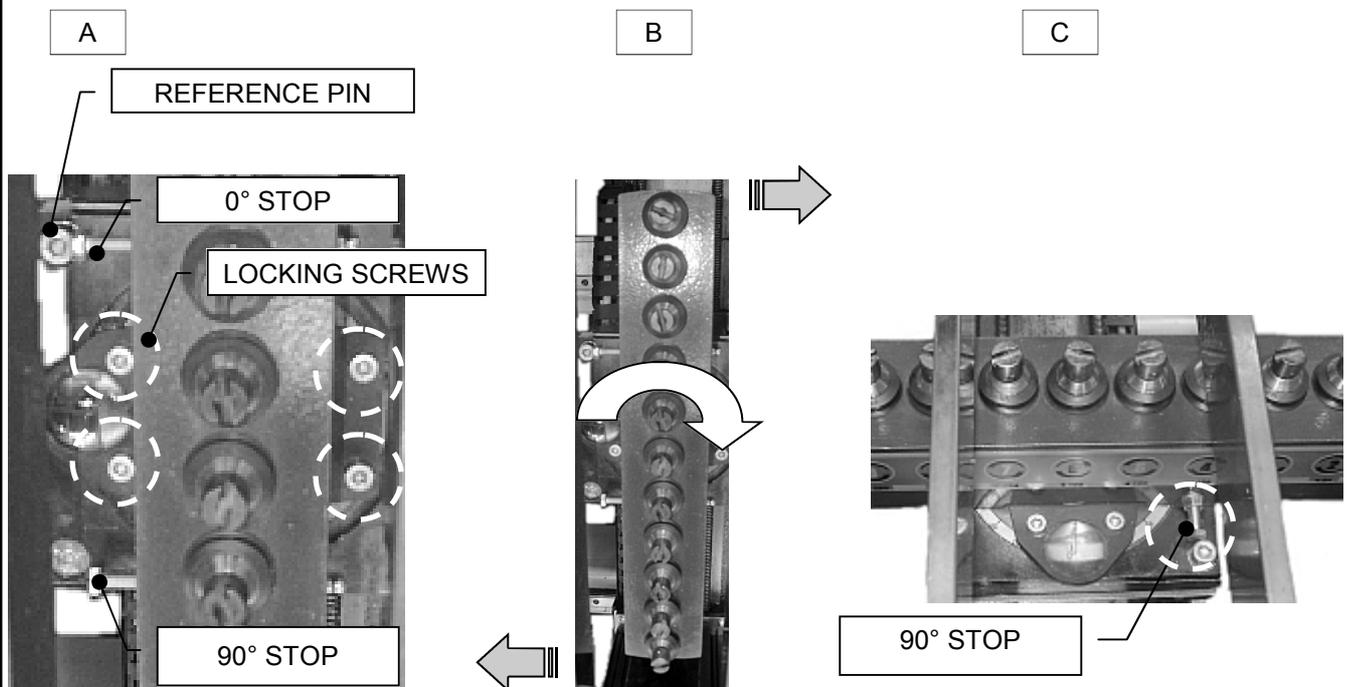
Front view



VERTICAL HEAD ROTATION PROCEDURE

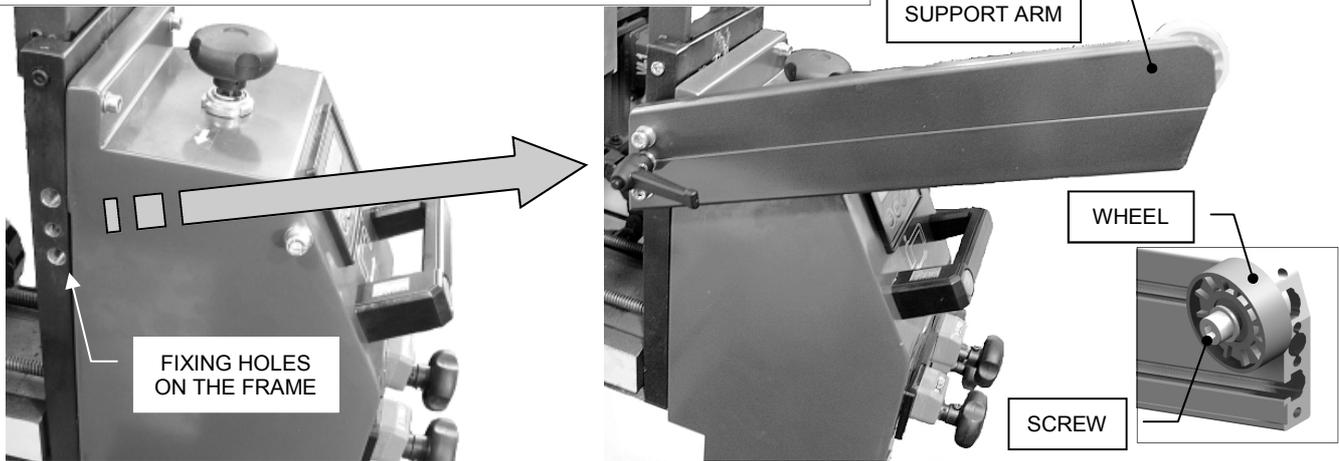
The machine is delivered with the vertical heads at 0° (aligned along Y-axis direction). If you need to work with tilted heads, please follow the procedure described below (see the following figures):

- A. Unlock the 4 locking screws, close to the driving spindle, which connect the head to the motor unit
- B. Move gently the two ends of the head to rotate it from 0° to 90° position: go on moving the head until the stop placed on it is in contact with the reference pin placed on the motor group
- C. Be sure that the stop and the reference pin are firmly in contact each other, then tighten the screws



Please check that there is no risk of collision between each spindle and the workpiece holding table
 If the head is not correctly aligned at 90°, loose the locking screws and work on the 90° stop to adjust the position, then lock the screws again before going on working.

PANEL SUPPORT ARM MOUNTING INSTRUCTIONS (ONLY ON THE TWO VERTICAL HEAD UNIT IN THE MIDDLE OF THE MACHINE)



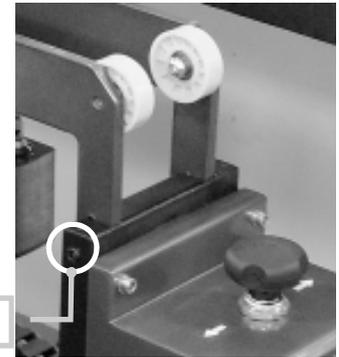
The panel support group is delivered with the machine (in a separate package) but not installed on it. The operator has to mount the group using its screws and the knobs. You can also adjust the position of the sliding wheel working on the screw used to connect it to the support arm.

WORK ON SMALL PANELS

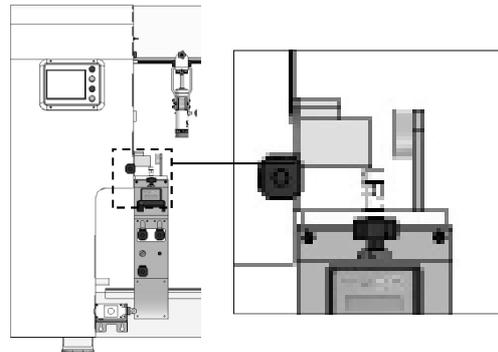
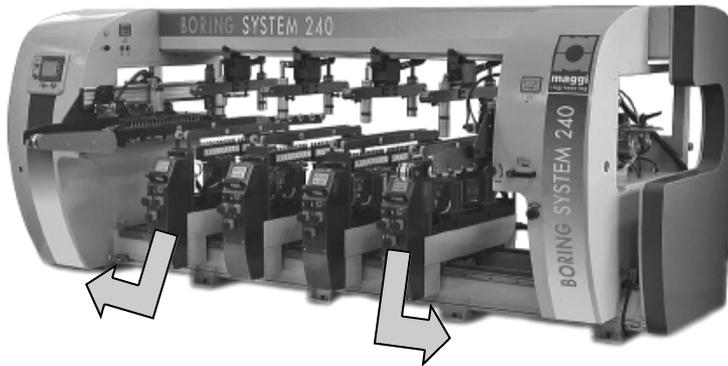
To drill small panels it is necessary to move the first and the last vertical head unit (the first on the left end and the last of the right end of the machine, see figure below) just under the horizontal head unit.

To perform this operation you have to remove the workpiece holding tables unlocking the screw which fix them on the frame (see figure on the right).

Remember to assemble again the workpiece holding tables correctly on their respective vertical unit to work large panels.



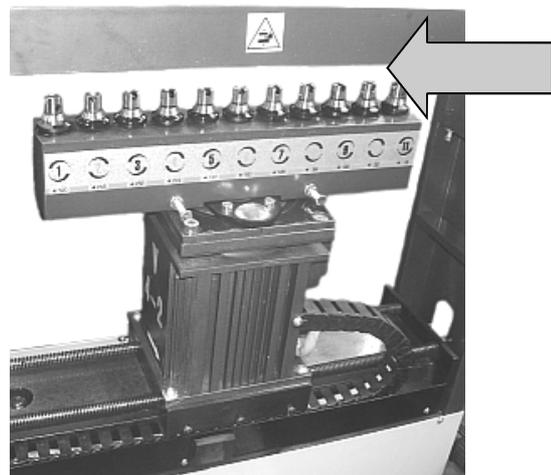
LOCKING SCREW FOR WORKPIECE HOLDING TABLE



ATTENTION

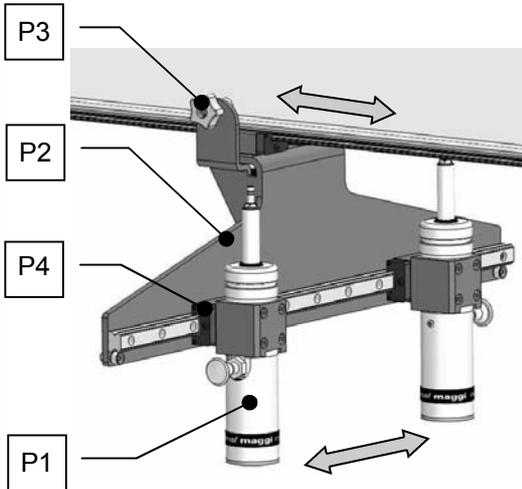
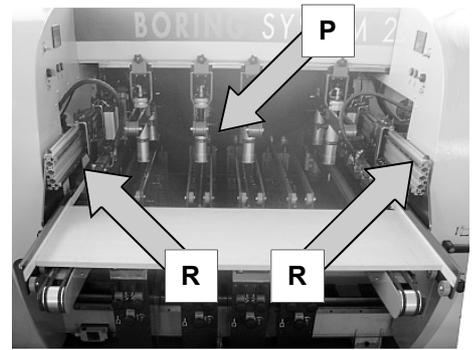
CHECK THAT THE VERTICAL HEADS ARE IN "DOWN" POSITION AND THAT THE SPINDLES ARE UNDER THE WORKPIECE HOLDING TABLE BEFORE MOVING THE VERTICAL HEAD UNIT ALONG THE X-AXIS DIRECTION: THERE COULD BE A CRASH WITH THE WORKPIECE OR OTHER PARTS OF THE MACHINE.

THIS PROCEDURE IS PARTICULARLY IMPORTANT WHEN YOU HAD TO POSITION THE VERTICAL HEAD UNIT CLOSE TO THE HORIZONTAL HEAD UNIT (LH OR RH), WHEN YOU WORK ON SMALL PANELS



3.4 WORKPIECE POSITIONING AND BLOCKING DEVICE

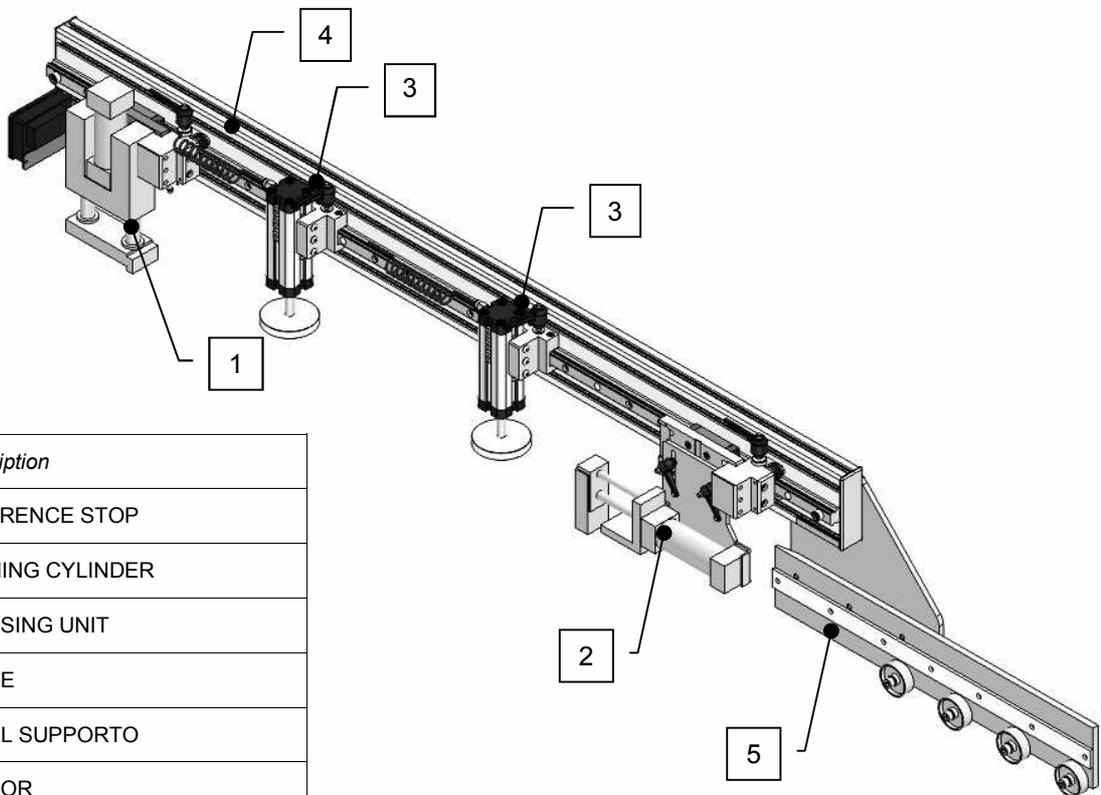
The system for blocking the workpiece is based mainly on the pressing units (see point P in the figure on the right). The system for positioning the workpiece is based on the pneumatic devices installed on the fence (see point R in the figure on the right), both on the left and on the right side of the machine. On the fences there are also auxiliary pneumatic pressing units.



PRESSING UNIT

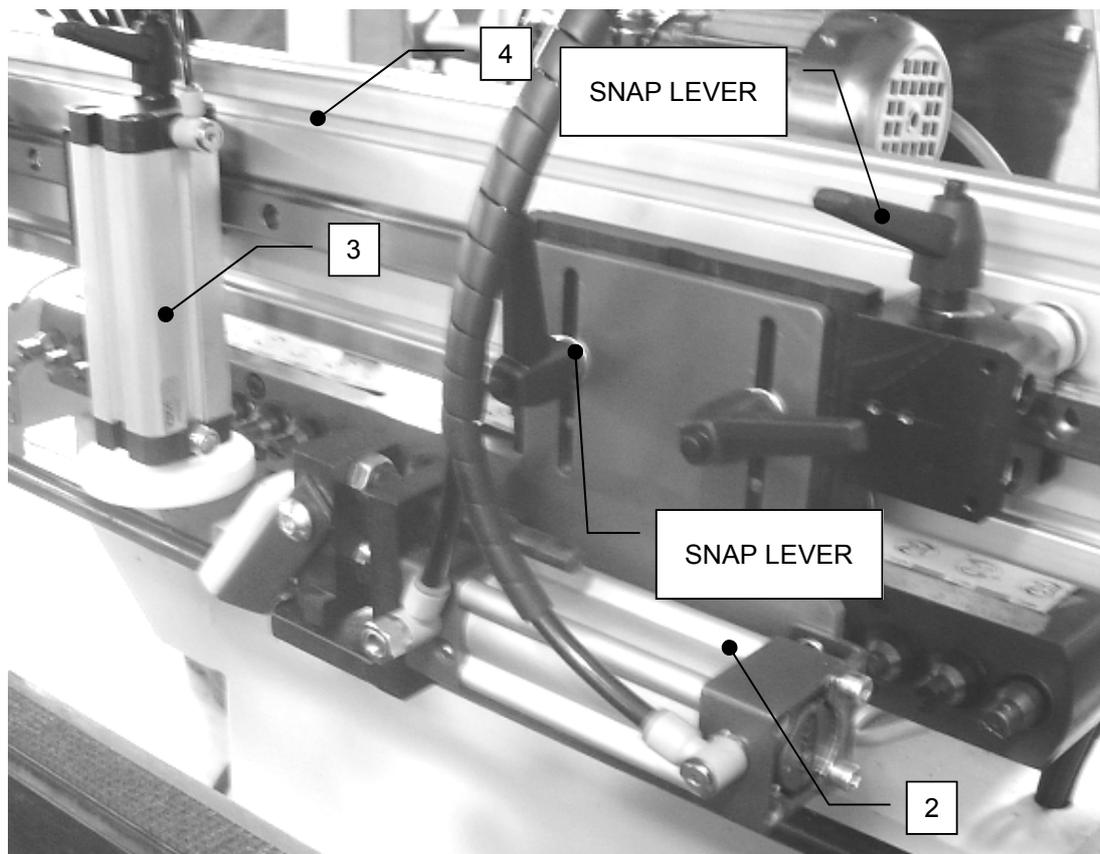
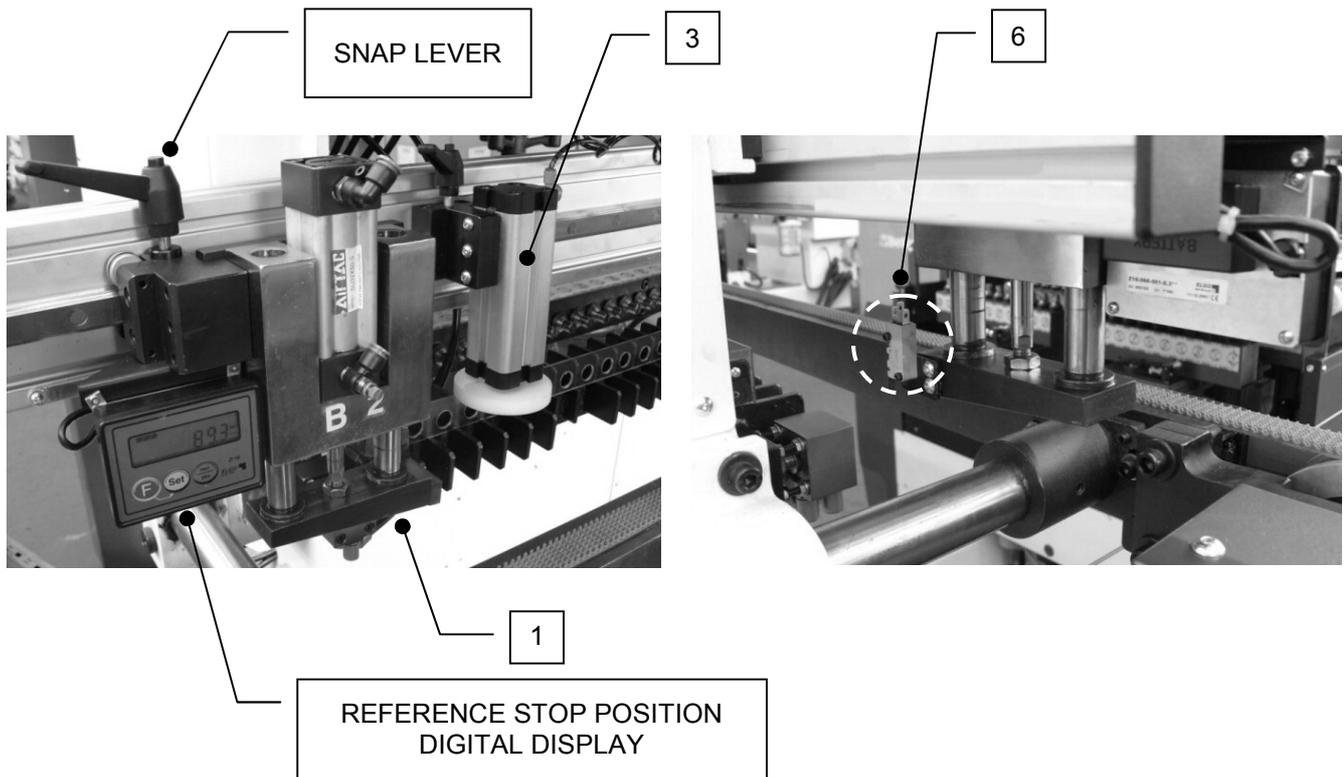
Each pressing unit consists of two safety pneumatic cylinders (P1) held by a robust steel frame (P2) and runner blocks which allow the operator to position easily the unit along the X-axis. The operator can fix the entire unit in position working on the locking knob (P3). Any single cylinder can be moved along Y-axis on the steel frame sliding on runner blocks (P4).

FENCE HOLDING THE REFERENCE STOP, THE PUSHING CYLINDER AND THE ADDITIONAL PRESSING UNITS



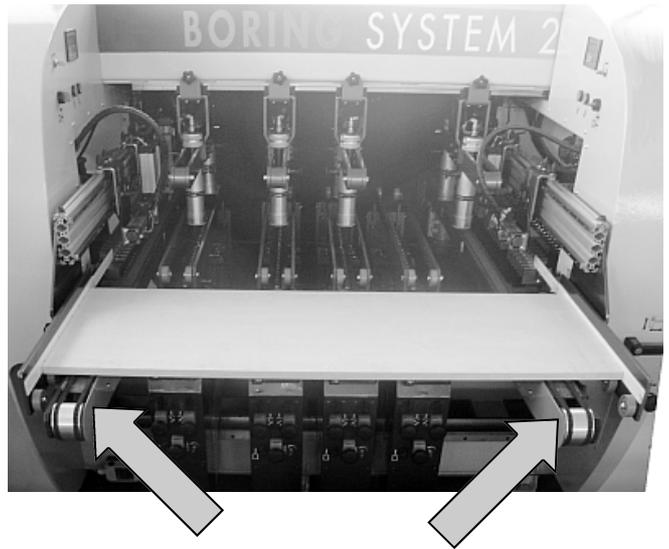
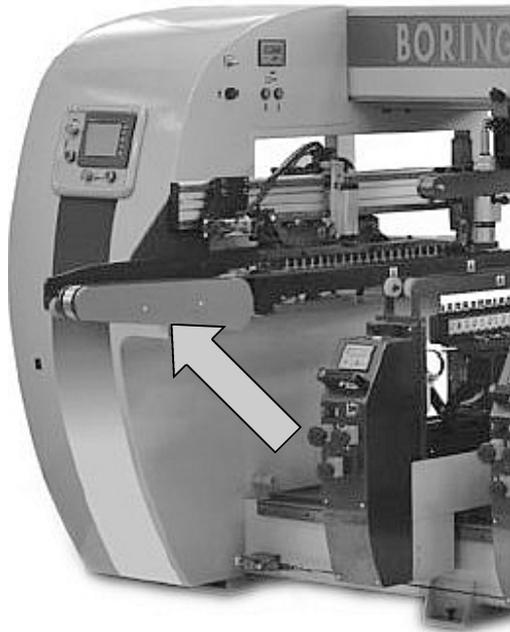
n°	Description
1	REFERENCE STOP
2	PUSHING CYLINDER
3	PRESSING UNIT
4	FENCE
5	PANEL SUPPORTO
6	SENSOR

The machine is equipped with two fences, one fixed on the left horizontal head unit (fixed) and the other on the right horizontal head unit (mobile). On each fence there are assembled: a device for supporting and guiding the workpiece before introducing it into the machine (point 5), a series of additional pressing units (point 3) to block the panel close to the horizontal head, a sensor revealing the presence of the panel to be drilled (point 6) and a reference stop (point 1). The general control system of the machine automatically controls all these units.



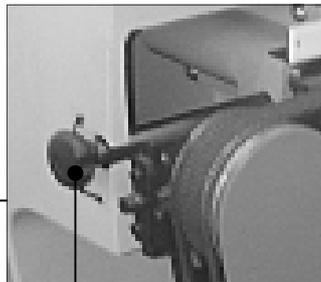
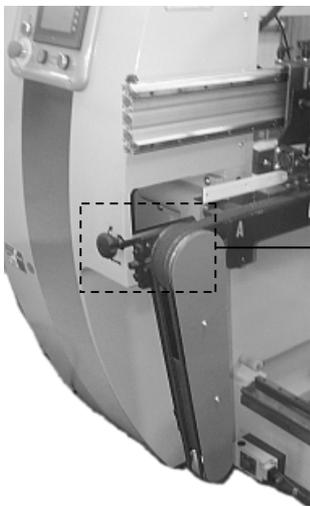
The reference stop, the pushing cylinder and the additional pressing units slide on runner blocks and can be easily blocked in position working on the snap levers.
 The current position of the reference stop along the fence is shown by the digital display; on the plate holding the pushing cylinder there is a millimetre rule to be used for vertical positioning the cylinder itself, as the thickness of the panel changes.

3.5 LOAD/UNLOAD WORKPIECE DEVICE (BELT FEEDING UNIT)

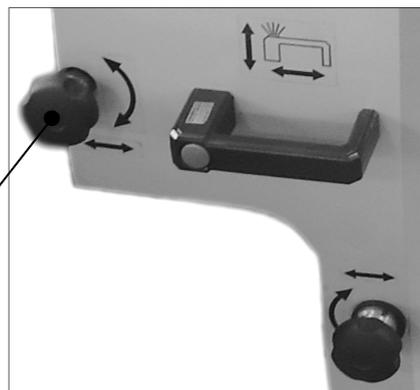


The machine is equipped with a semi-automatic device for loading/unloading workpieces: it helps the operator in doing the drilling operations and allow the machine to be used also as a part of a production line. The device can be activated both manually and automatically through the control panel.

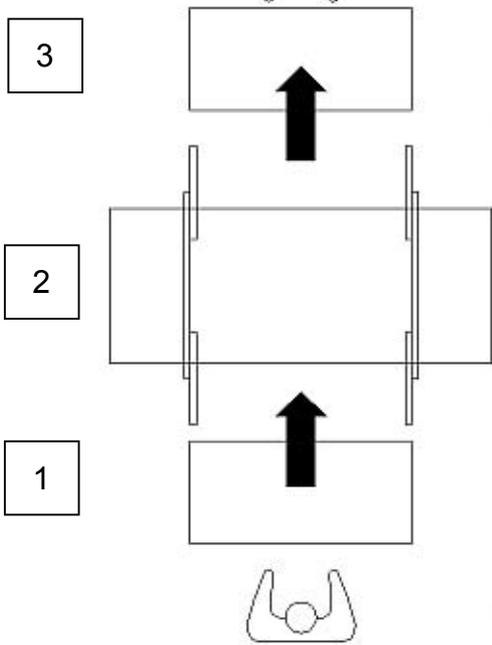
The device consists of a feeding belt moved by an electric motor and fixed on a robust steel frame unit assembled on the horizontal head unit, both on left and right side of the machine. A linear sliding system coupled with a knob allows the operator to move the feeding belt near to and/or away from the horizontal head unit, depending on the size of the panel to be drilled (please see the following figures blow).



KNOB FOR POSITIONING THE BELT FEEDING UNIT ON THE LEFT HORIZONTAL HEAD UNIT

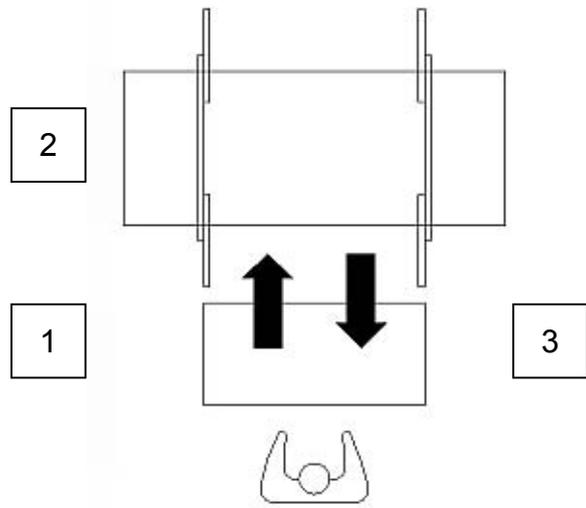


KNOB FOR POSITIONING THE BELT FEEDING UNIT ON THE RIGHT HORIZONTAL HEAD UNIT



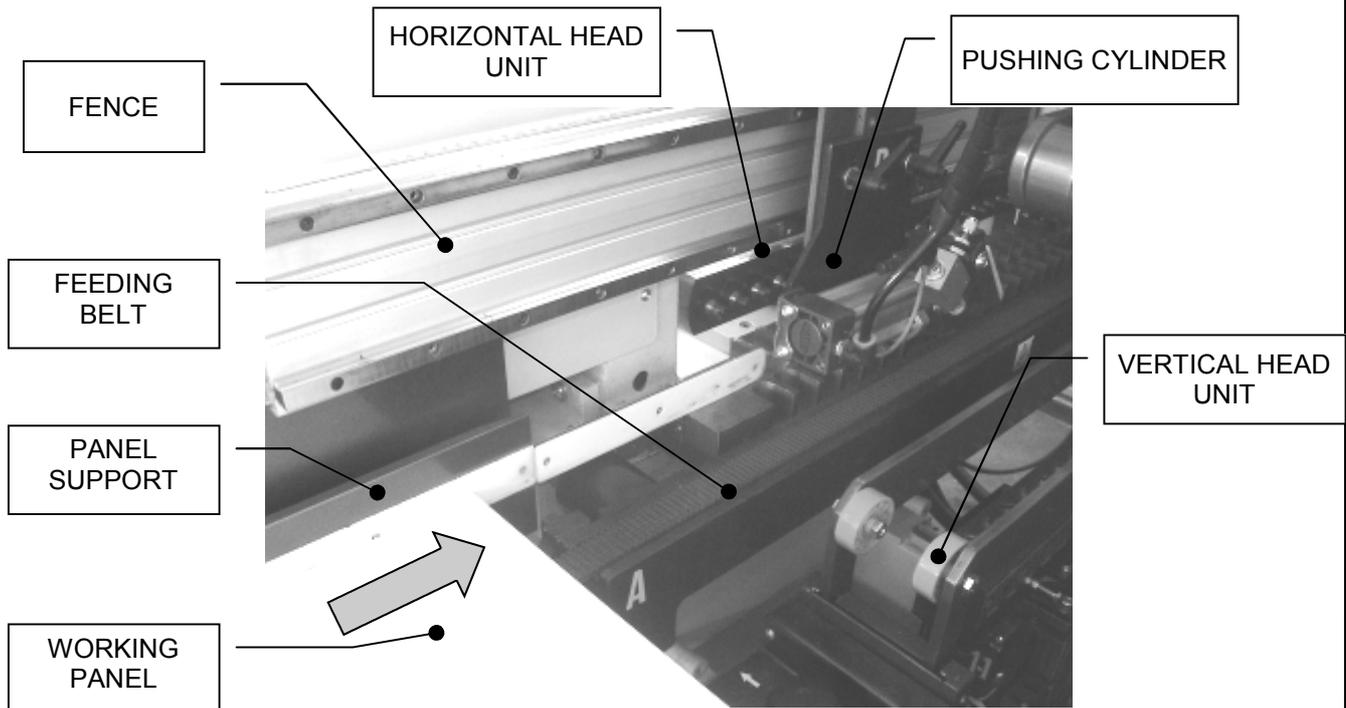
TWO OPERATORS WORK (OR LINE WORK)

The feeding belt moves the panel from the load position (1) to the work position (2) inside the machine. The device transfers the panel from the working position to the unload position (3) in the back side of the machine. Here there will be a second operator who unloads the panel from the machine or, if the machine is used as a part of a production line, an automatic feeding system will move the panel to the next machine.



SINGLE OPERATOR WORK

The feeding belt moves the panel from the load position (1) to the work position (2) inside the machine. The device transfers the panel from the working position to the unload position (3) in the front side of the machine, inverting the direction of motion. The operator then will take and unload the drilled panel from the machine.



There are also appropriate and well-shaped parts on the fence and on the horizontal head unit to support and guide the working panel moving on the feeding belt.

4. EQUIPMENT

The machine is shipped together with the following:

- Set of working wrenches and tools to assemble and set-up the machine properly
- Plates for placing the machine
- User's manual

5. SAFETY PROTECTIONS DEVICES AND ADHESIVE WARNING

- The machine operator must be informed about correct use of the machine, the respective protective devices and accessory tools.
- The machine boring devices must be correctly fastened and adjusted.
- The whole machine must undergo the routine and extraordinary maintenance procedures at the specified intervals.
- Before starting any work and switching on the machine, make sure that the work table is always free of scraps of material bored previously.
- Before activating any operation with the machine, make sure there are no persons or obstacles around the working area that could be a source of damage.
- Make sure that the connection lead to the mains is intact, well laid and not twisted.
- Never gain access to the area of the drills without firstly turning the machine off.
- Never leave inflammable substances near the machine, as any sparks could cause explosions or fires.
- The operator must pay the utmost attention when using the pedal to enable machine operating.
- The operator must always think of the possible consequences before moving his hands near the more dangerous areas, i.e.: boring area, clamping action area.
- Always keep the machine off when not in use.

The main risk is due to the revolving drills. To reduce this risk to the minimum, our machines have been equipped with the following safety devices:

A) Emergency Pushbutton

It is located on the control panel in the front part of the machine, and on the mobile emergency columns. When it is pressed, all machine movements are halted immediately. The machine can be started again only after the pushbutton is reset to working position.

B) Wire safety device

It is installed both in the front part and in the rear part of the machine. When it is hurt, all machine movements are halted immediately, as well as for the emergency pushbutton. The machine can be started again only after the device is reset to working position.

C) Set of Plates

They contain an accurate description of safety precautions and indications on how to operate the machine correctly and make it possible to identify the machine parts. One of these plates contains the identification data and the serial number of the machine itself.

D) Safety hold down clamps (patented)

They remain either on the machine table surface or on the already positioned piece to be worked, thus preventing the operator from accidentally placing his/her hands under one of them.

E) EL Safety Device

No-return coil to prevent accidental starting of the machine.

**CAUTION SYMBOL: ALL OPERATIONS MARKED WITH THIS SYMBOL ARE DANGEROUS FOR THE OPERATOR.
THE OPERATOR MUST PAY THE GREATEST ATTENTION WHILE CARRYING THEM OUT.**



EEC, ISO, UNI PLATES

6. INDIVIDUAL PROTECTION DEVICES AND RESIDUAL RISKS

Despite all adopted safety protection devices, following situations may be dangerous:

- fall or throw of wood sliver during working operation
- entangling parts of clothes in moving parts of the machine
- danger of fire
- danger of electrocution
- danger of damage due to noise emission
- danger of damage due to dust emission

To prevent risks during placing, installation, adjustment, use, ordinary and extraordinary maintenance, we strictly recommend to use the following individual protection devices:

- gloves (for example during machine parts handling)
- anti-crushing and anti-sliding shoes
- glasses or face-shields against chip or wood sliver during working or cleaning operation of the machine
- noise protection devices (safety earmuff, ear plugs,...)
- anti-dust masks



Moreover, the clothes must be suited to avoid danger of:

- catching
- dragging
- crushing
- sliding
- abrasion
- contact lenses are prohibited

For further information and recommendation please refer to chapter. OPERATIVE NOTES.

7. INTENDED USE

7.1 MATERIALS

The boring system machine has been designed and built to drill the following materials:

- solid wood
- m.d.f.
- panels of shaving wood, laminated wood, ennobled wood, etc.

The maximum panel thickness is 65 mm and its maximum dimensions are those described in chapter 8.

- Other materials, different from the ones described above, can be machined only after the written approval of the manufacturer. In particular it is not allowed to machine materials having toxic or dangerous substances for operator's health and safety, metals or other materials that can modify the correct working of the machine or cause fire or explosion..
- Any modification is forbidden without the written authorization of the manufacturer.
- It is not allowed to tamper with the safety protection devices.

7.2 IMPROPER USE

Any operation that does not comply with the instructions given herein is to be regarded as improper use. Moreover:

- WE ADVISE YOU NOT TO lay tools against or on the machine for any reason whatsoever during machine installation, use or maintenance.
- WE ADVISE YOU NOT TO get on the machine or on any of its parts.
- The data impressed in the plate placed on the rear guard of the machine identify the machine itself. It is absolutely forbidden to remove the plate or modify the data it contains.
- When you eventually order spare parts or ask for any suggestions for use or maintenance, you have always to transmit the model type and identification number contained in the plate.



THE MANUFACTURER CANNOT BE CONSIDERED LIABLE FOR ANY DAMAGE CAUSED TO PEOPLE, ANIMALS OR PROPERTY RESULTING FROM IMPROPER USE OF THE MACHINE.

NEVER LEAVE THE MACHINE UNATTENDED WHEN CONNECTED TO THE ELECTRICAL POWER SUPPLY

8.1 USABLE TOOLS

- Drills for quick change spindles, 10 mm O.D. 20 mm length shank (fig. A)
- Drills up to 40 mm O. D. can be used (fig. B)

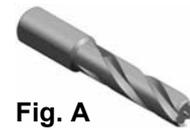


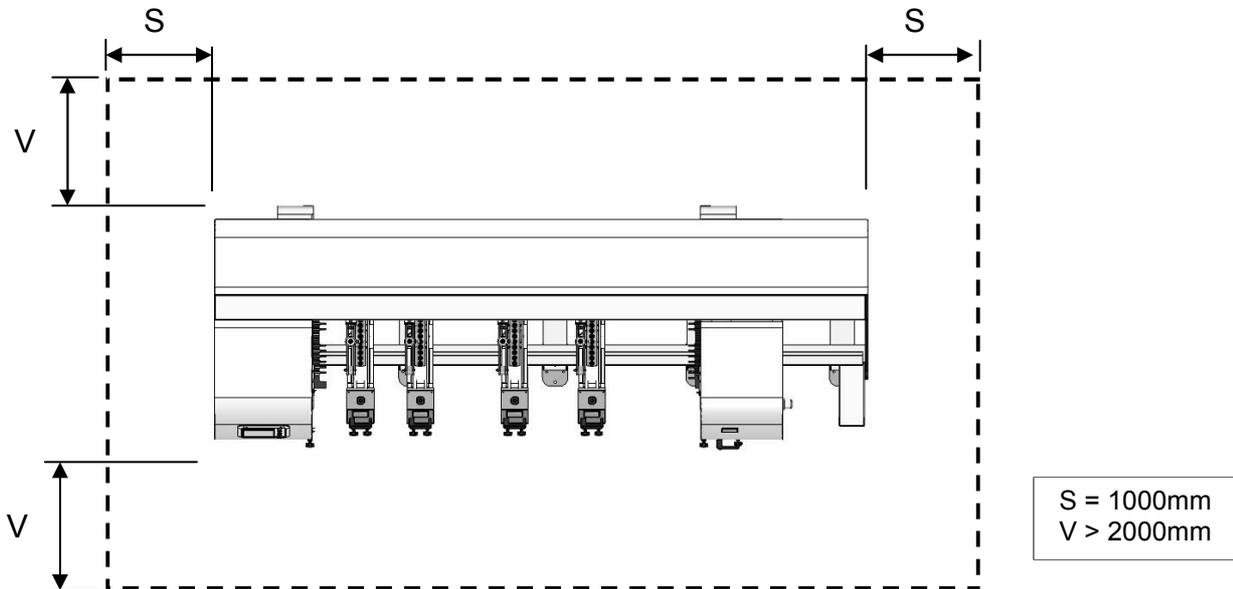
Fig. A



Fig. B

9. WORKING AREA

To use the machine properly, the areas indicated in the picture below must be left free.



10. TRANSPORT

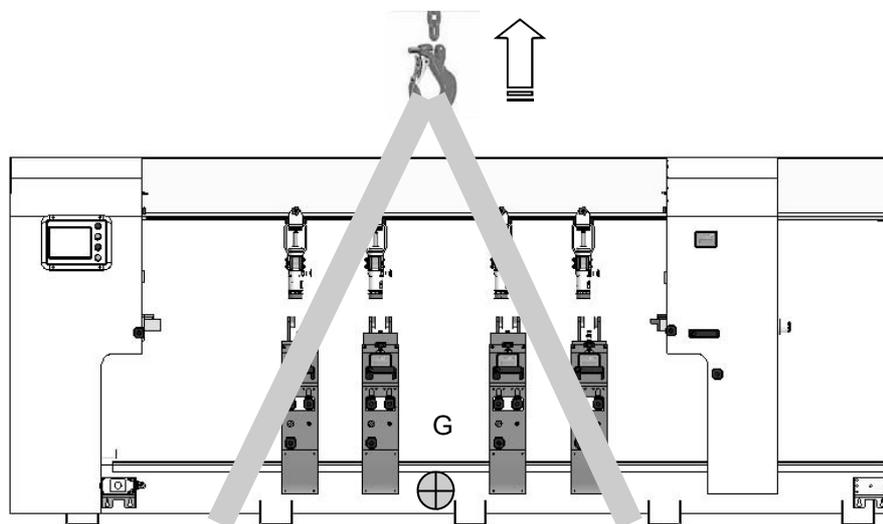
The boring machine is packed in a wooden box. It is possible to move it by means of: forklift, crane, transpallet. All the operation must be done by authorized and qualified personnel. Weight data are written in chapter named TECHNICAL DATA, the lifting points on the machine are showed in the figure below (G = center of gravity of the machine).

Transport and handling shall be carried out by qualified personnel.

Hoist and move the machining centre so as to avoid damage to its parts:

- make sure that all safety guards and doors are closed and fixed;
- the machining centre must be transported as positioned for installation;
- before the transport the non varnished parts must be greased so as to avoid wear and tear;
- protect the machining centre from impacts during transport.

Before moving the machine verify that the entire surrounding area is free of obstacles. In case of stocking, the machine must be kept in dry places, away from rain, snow or humidity. During all moving operations we recommend to be extremely careful to avoid danger of damage for persons, things and the machine itself.



Upon receipt of the machine, before unloading it from the means of transportation, carry out the following checks:

- check the performance of the lift truck, taking into account the total weight of the machine and the height of the truck;
- check that the slings, with nominal load greater than the total weight to be lifted, are placed so as not to damage machine parts, adjustment flywheels, control panel, emergency push buttons, etc.;
- fit rags between the metal parts of the slings and the machine in order to avoid wear, scratches, breakage, etc.;
- do not put your hands on the slings and/or close to the hooking points;
- do not put your hands on the machine before it is stable on the ground;
- do not stand under the overhanging machine during handling operations;
- if the machine is being handled on rollers, always keep the direction it is moving in under control so as to avoid getting crushed, entangled or cut.



BE VERY CAREFULL DURING ALL THE OPERATIONS REGARDING TRANSPORT, MOVING AND INSTALLATION OF THE MACHINE

11. INSTALLATION

The machine must be placed on a stable plain surface, capable to support the weight of the machine itself; any possible difference in height must be in conformity with building rules. When the machine has to be placed on raised plain surface (higher floor) the load-bearing slab must be adequate to the weight of the machine.

Put the machine in the right place, as requested operative requirements, where it is easy to connect it to electrical and pneumatic power supply.

Put the machine in a place where there is enough lighting to see every part of the machine itself.

We suggest also to arrange an exhaust fan nearby the machine to clean it periodically.

When the machining centre is unloaded from the means of transport and positioned in its working point, it must be rested on the floor taking care to set the iron plates provided with the machining centre under the bed where bolts are to be found. Clearly, the floor must have a structure capable to support at least the pressure (P) calculated as follow:

$$P \text{ (Kg/cm}^2\text{)} = (n \times Sa) / (2 \times Pcl)$$

Pcl = weight of the machine

n = number of supports

Sa = surface of a single support



After positioning the machining centre on the plates, the protection devices of the runner bars of axes X and Y must be opened. Using a level gauge with centesimal resolution, check the flatness of the machining centre setting the instrument at the ends of the X and Y runner bars, working on the adjustment bolts on the machining centre rest points.

12. ASSEMBLY AND PRELIMINARY PREPARATION FOR SET UP

The machine is delivered partially assembled, so it is necessary to mount all those parts left not assembled for packaging reasons.

The buyer must verify that all the machine parts are safe and not damaged after transportation, before going on with assembling.

In particular we suggest to verify the most delicate parts, as electrical or mechanical components, pneumatic tubing or the safety protection devices of the machine itself.

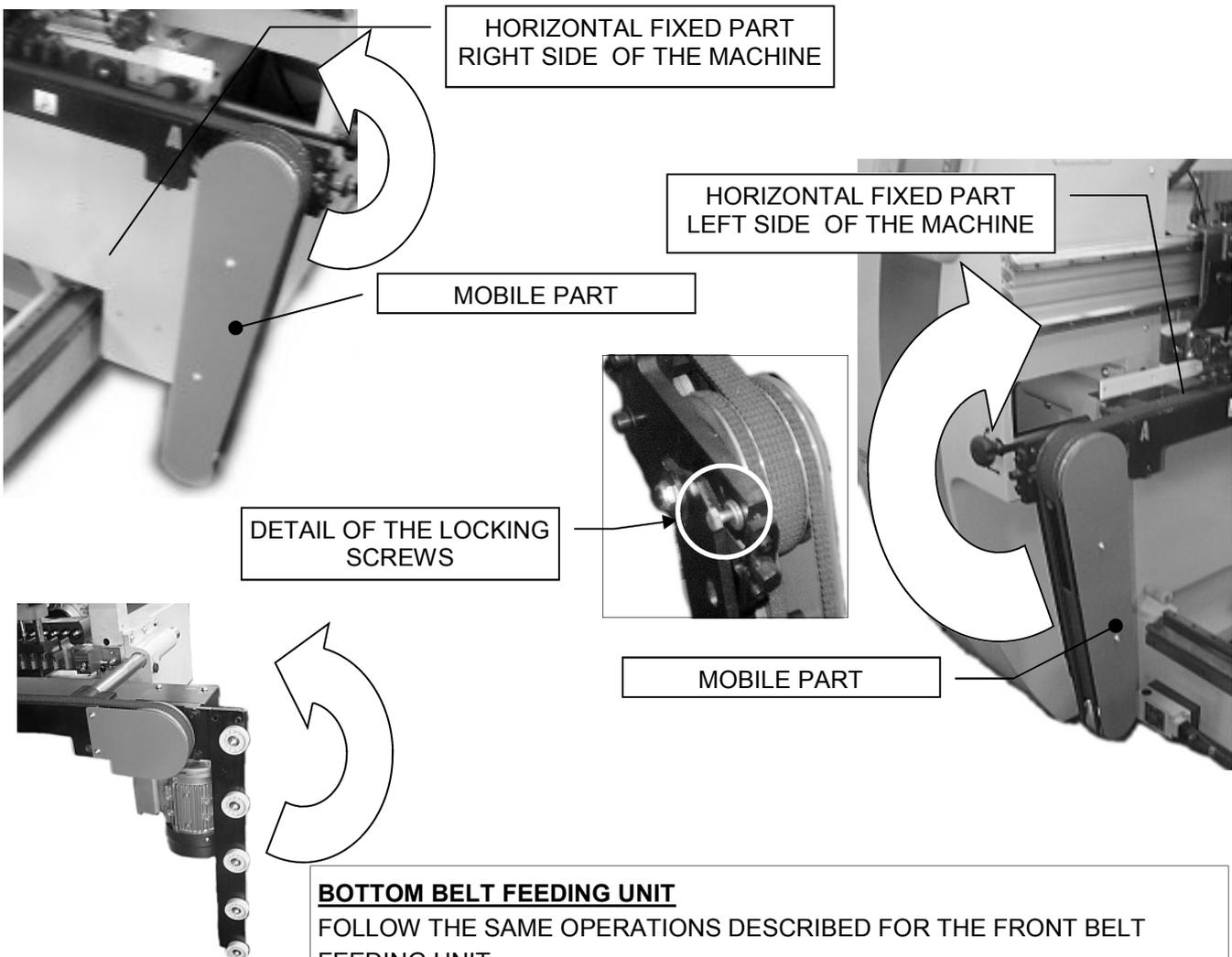
After assembling, it is necessary to clean all surfaces from protective oil so that the working pieces remain clean during working operations. Use oil or kerosene only to clean the machine, and not solvents of any kind as petrol and diesel oil because they can damage painted parts and oxidise other non painted surfaces.

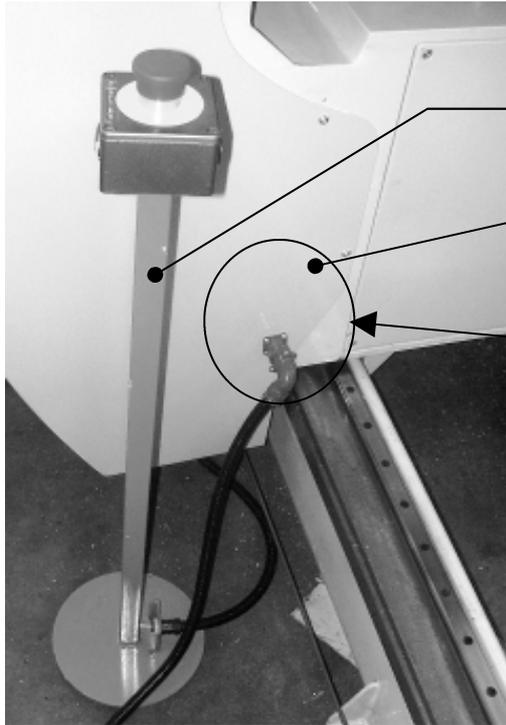
ATTENTION: THE MACHINE IS DELIVERED WITHOUT EXHAUST SYSTEM. THE USER HAS TO INSTALL A PROPER EXHAUST FAN DEPENDING ON THE TYPE OF USE, THE MATERIAL AND THE TIMING OF USE OF THE MACHINE. THIS SYSTEM HAS TO KEEP THE DUST CONCENTRATION BELOW THE VALUE ALLOWED BY THE LAW OF THE COUNTRY WHERE THE MACHINE IS INSTALLED.

ATTENTION: REMOVE ANY LOCKING DEVICE INSTALLED BY THE MANUFACTURER ON THE MACHINE TO MAKE SAFE TRANSPORT AND HANDLING OPERATIONS BEFORE GOING ON ASSEMBLING THE MACHINE

FRONT BELT FEEDING UNIT

1. LOOSE THE LOCKING SCREW TO UNLOCK THE MOBILE PART OF THE BELT FEEDING UNIT FROM THE POSITION ADOPTED FOR TRANSPORT
2. TILT THE MOBILE PART OF THE BELT FEEDING UNIT AND ALIGN IT TO THE HORIZONTAL FIXED PART
3. CHECK THAT MOBILE AND FIXED PARTS ARE CORRECTLY ALIGNED
4. SCREW THE LOCKING SCREWS AND LOCK THE BELT FEEDING UNIT IN WORKING POSITION





EMERGENCY COLUMN WITH MUSHROOM PUSHBUTTON

MOBILE COLUMN FOR
EMERGENCY PUSHBUTTON

RIGHT HORIZONTAL HEAD
UNIT

CONNECTOR

EMERGENCY COLUMN WITH MUSHROOM PUSHBUTTON

CONNECT THE END OF THE ELECTRIC CABLE OF THE COLUMN TO THE CONNECTOR FIXED ON THE RIGHT HORIZONTAL HEAD UNIT AND TIGHT THE LOCKING NUT

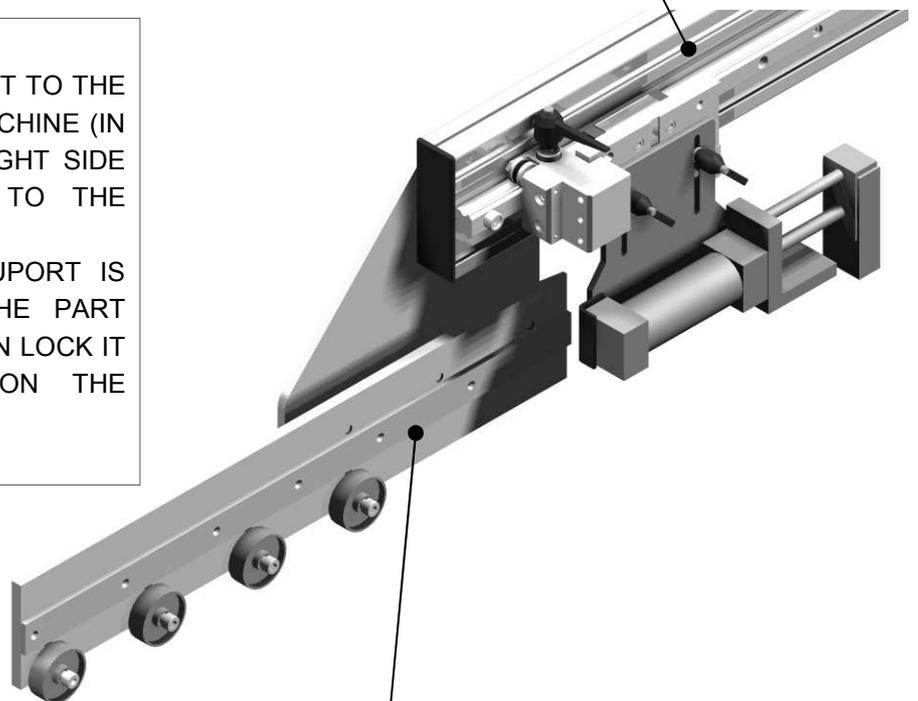
THE EMERGENCY COLUMN HAS TO BE PUT CLOSE TO THE WORKING POSITION, SO THAT THE OPERATOR CAN EASILY AND RAPIDLY REACH IT IN CASE OF EMERGENCY

PANEL SUPPORT

CONNECT THE PANEL SUPPORT TO THE FENCE INSTALLED ON THE MACHINE (IN THE LFT SIDE AND IN THE RIGHT SIDE OF THE MACHINE, CLOSE TO THE HORIZONTAL HEADS)

VERIFY THAT THE PANEL SUPORT IS CORRECTLY ALIGNED TO THE PART PREVIOUSLY ASSEMBLED THEN LOCK IT IN POSITION OPERATING ON THE LOCKING SCREWS

FENCE



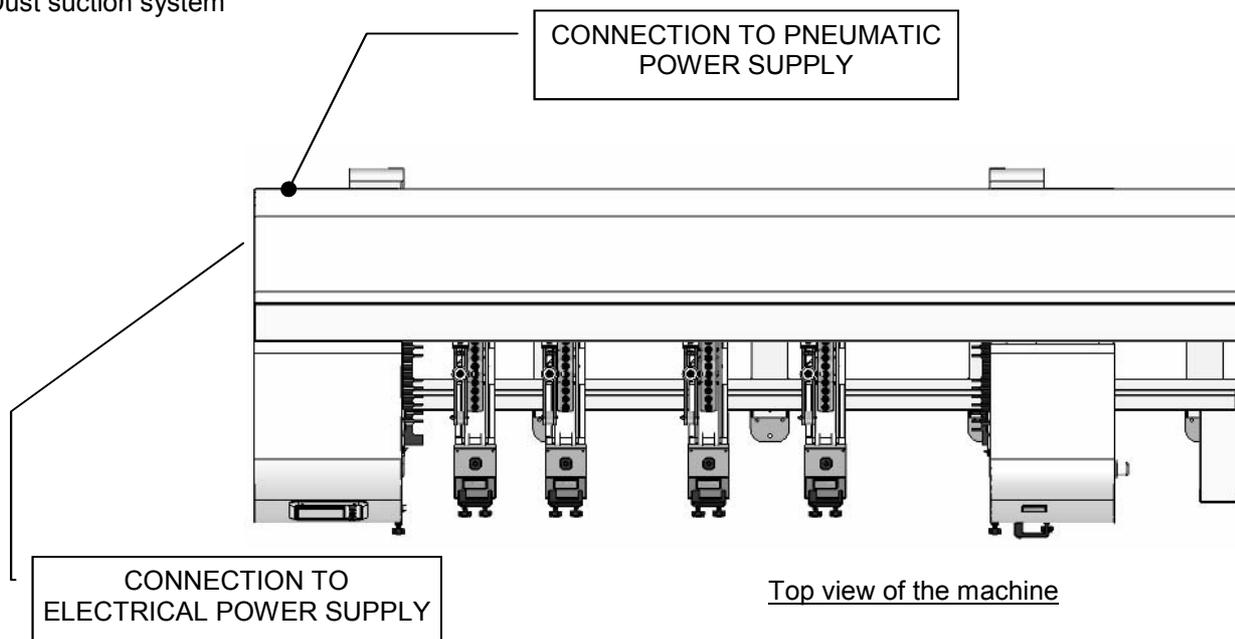
PANEL SUPPORT

PLEASE REFER TO THE INSTRUCTION DESCRIBED IN THE FOLLOWING PAGES FOR THE CONNECTIONS OF THE MACHINE TO EXTERNAL POWER SUPPLY

13. MACHINE CONNECTION TO EXTERNAL POWER SUPPLY

After machine assembling and installation, connect it with:

- Electrical power supply
- Pneumatic power supply
- Dust suction system



Top view of the machine



ATTENTION: WE STRONGLY RECOMMEND THAT THE CONNECTION TO THE ELECTRICAL POWER SUPPLY IS DONE BY TECHNICAL QUALIFIED PERSONNEL ONLY

NEVER LEAVE THE MACHINE UNATTENDED WHEN CONNECTED TO THE ELECTRICAL POWER SUPPLY

13.1 CONNECTION TO ELECTRICAL POWER SUPPLY

To gain access to the machine electric system, open the main board door placed on the left side of the machine. We recommend not to connect the machine to the electrical power supply until it is not correctly placed in the right place.

Before connecting the machine to the electrical power supply, it is necessary to verify that the electrical system corresponds to the following necessary power and safety requirements:

- Grounded equipotential electrical system
- Presence of fuses or protection switches against short circuits on every conducting cable R-S-T, except the grounded one
- The electrical power system must be in conformity with CEI 64.8 (CENELEC HD 384, IEC364-4-41) rules
- Voltage and frequency for the motors are specified on the plates placed on them
- Connect the power supply cable to R-S-T terminals
- Automatic protection devices installed upstream respect to the machine; they have to be coordinated to guarantee the automatic break according to above mentioned rules.

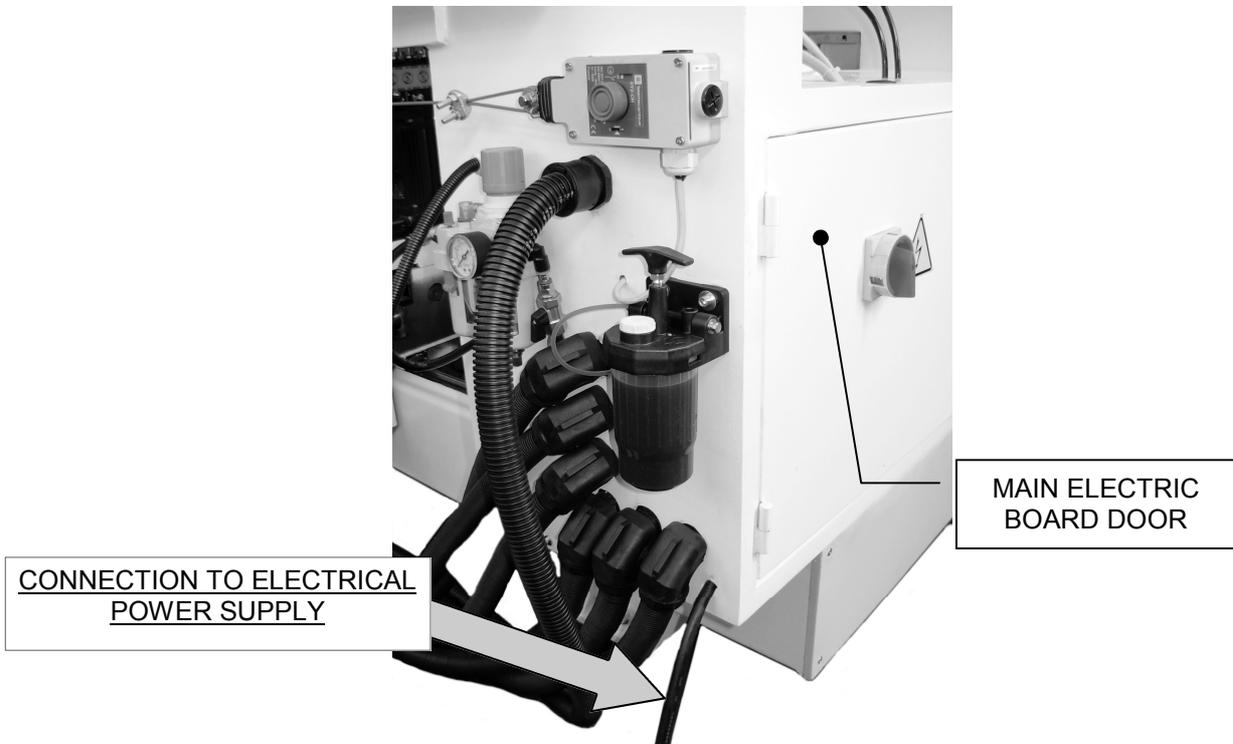
The electrical connection is done by three-phase plug.

The cable for ground connection is yellow-green.

The tolerance of admissible voltage is +/-10%. The power connection has not to be interrupted or the tension has not to be go down to zero for a time longer than 3 ms. Any tension loss does not be greater than the 20% of the peak value and no more than for a cycle

When voltage is applied to the electrical power supply, check that the spindles rotation direction is the one written in the plate placed on the head (Black=Right; Red=Left). If the rotation direction does not match the one impressed in the plate, please invert the connection cables to three phase power supply.

For any information please see the electrical diagrams included in this manual.



13.2 PNEUMATIC CONNECTION

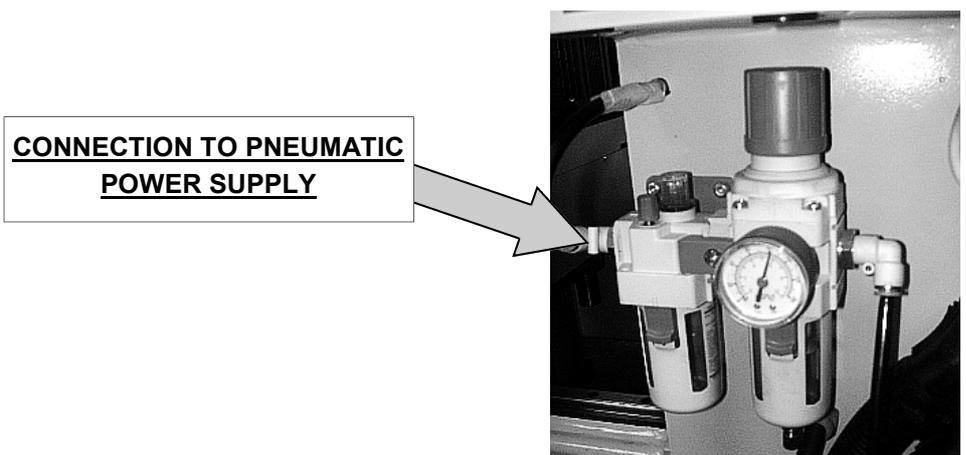
Connect the filter-reducer-lubrication unit to the compressed air system with a rubber or nylon made pipe having a I.D. of 8mm at minimum.

The filter-reducer-lubrication unit (FRL unit) is located in the back side of the machine (the opposite side respect to the operator) close to the main electric board.

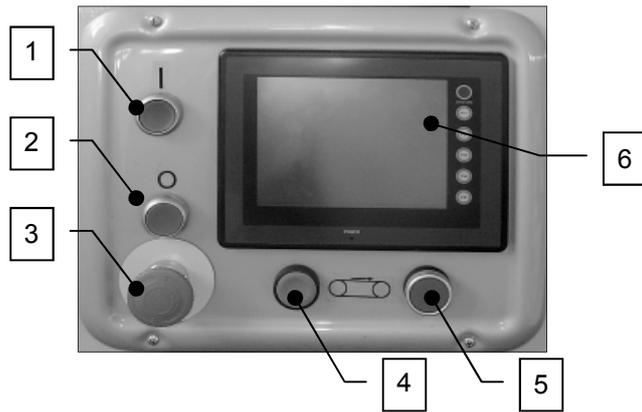
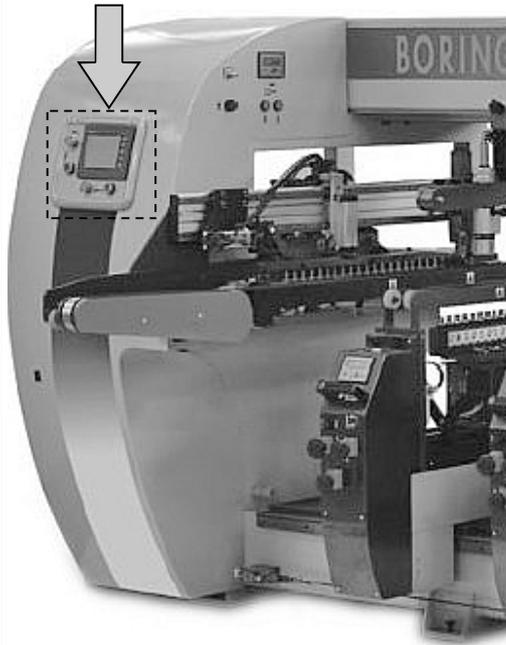
If the connection pipe is longer than 5/6m, we strongly suggest to use a pipe with a I.D. of 10mm or more. We suggest also to install a manual switch valve equipped with an air exhaust device.

The FRL unit consists of:

- a filter, whose function is to purify air from dust and humidity that might damage the valves or gaskets in pneumatic cylinders.
- a regulator that adjusts compressed air working pressure by keeping this value within the above-mentioned limits.
- a lubricator that puts a determined amount of oil into the system to lubricate cylinders, valves, gaskets and moving parts.



14. CONTROL PANEL AND HUMAN-MACHINE INTERFACE

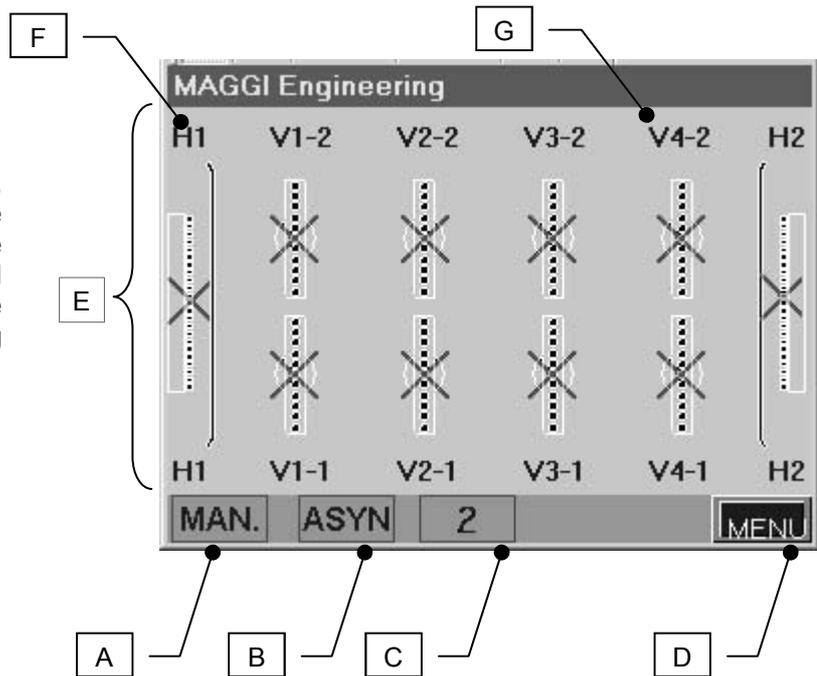


POS.	PART NAME
1	ON MAIN PUSHBUTTON
2	OFF MAIN PUSHBUTTON
3	MUSHROOM EMERGENCY PUSHBUTTON
4	ON FEEDING BELT UNIT PUSHBUTTON
5	OFF FEEDING BELT UNIT PUSHBUTTON
6	DISPLAY

A PLC semi-automatically controls the main functions of the machine: the operator can select the desired working mode among many and save his/her own personal works in the storage memory of the machine. The working procedure is done inserting data and selecting the desired options through a touch-screen display and a simple and easy-to-use human-machine interface. The operator can also choose the language of the system and control the brightness of the display.

MAIN WINDOW

The main window of the working program, as it appears once that all the options are selected, is depicted in the figure on the right. It summarizes in a schematic and simple way the set-up of the machine chosen for the current work, giving graphical and text information.

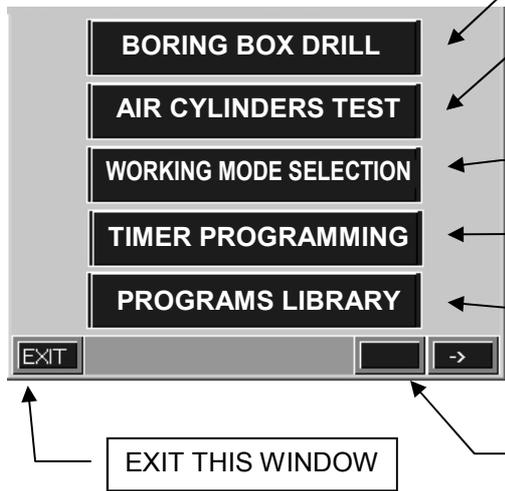


- A. Manual or automatic working mode
- B. Synchronous or asynchronous working mode
- C. One operator or two operator working mode
- D. Button to go back to the main menu
- E. Horizontal and vertical heads schematic layout as selected for the current work
- F. Horizontal head name: H1 = left horizontal head, H2 = right horizontal head
- G. Vertical head name: V3-1 = front head of the vertical head unit n°3, V3-2 = back head of the vertical head unit n°3

You can find in the following pages the description of the main windows in the human-machine interface. Remember that you can reach any other window from the main window

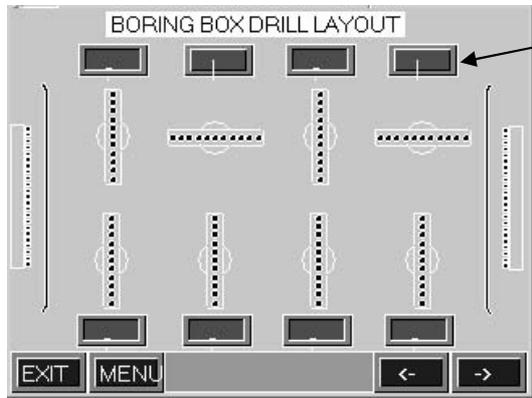
PLEASE PUSH ON THE DESIRED BUTTON TO GO INTO THE CORRESPONDING MENU'

MAIN MENU'



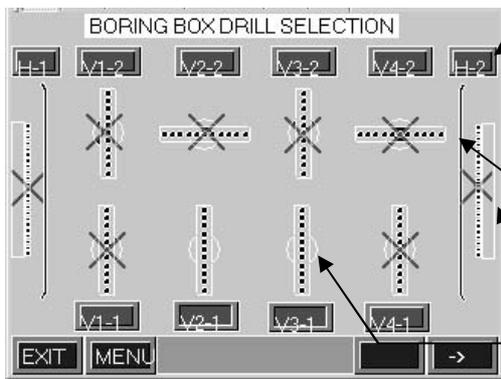
- HEAD SELECTION MENU' (VERTICAL AND HORIZONTAL)
- REFERENCE STOP, PUSHING CYLINDER AND PRESSING UNIT MENU'
- WORKING MODE SELECTION MENU'
- TIME PROGRAMMING MENU'
- PROGRAM LIBRARY SELECTION
- GO TO THE NEXT WINDOW
- GO TO THE PREVIOUS WINDOW

HEAD SELECTION MENU' - HEAD LAYOUT



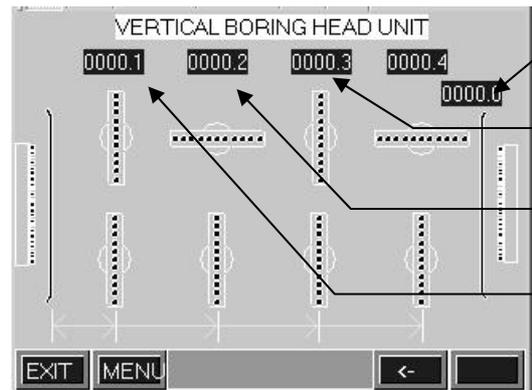
HEAD ROTATION SELECTION PUSHBUTTON:
GREEN = HEAD AT 0°
RED = HEAD AT 90°

HEAD SELECTION MENU' - HEAD SELECTION



- HEAD SELECTION PUSHBUTTON
GREEN = ACTIVATED HEAD
RED = DE-ACTIVATED HEAD
- DE-ACTIVATED HEAD , ROTATED AT 90°
- DE-ACTIVATED HEAD
- ACTIVATED HEAD, ROTATED AT 0°

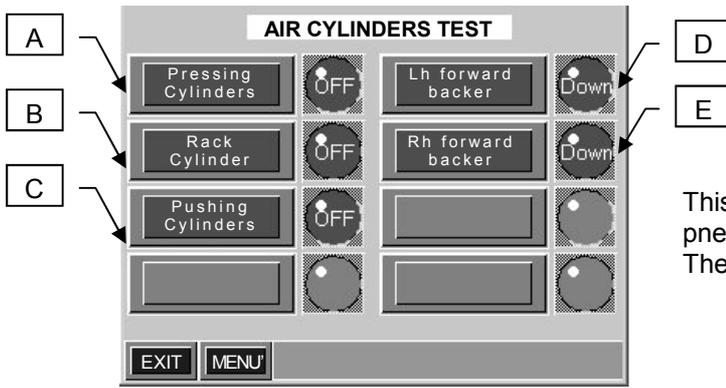
HEAD SELECTION MENU' - HEAD UNIT POSITION



- RIGHT HORIZONTAL HEAD UNIT POSITION
- VERTICAL HEAD UNIT POSITION V3
- VERTICAL HEAD UNIT POSITION V2
- VERTICAL HEAD UNIT POSITION V1

You can insert manually the value for the position of the head unit through a keyboard. It appears in the display when you select the button of the head unit

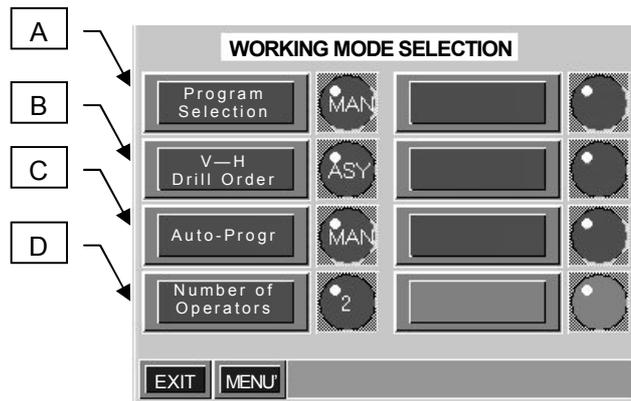
REFERENCE STOP, PUSHING CYLINDER, PRESSING UNIT AND RACK CYLINDER TEST MENU'



This menu is used to test the functionality of the pneumatic parts of the machine
The machine is used in manual mode

N°	FUNCTION	STATE	DESCRIPTION
A	PRESSING CYLINDER	on/off	Test for all the pressing units
B	RACK CYLINDER	on/off	Test to move the rack of the right horizontal head
C	PUSHING CYLINDER	on/off	Test for the pushing cylinders on the LH and RH frame
D	LH FORWARD BACKER	up/down	Test for the LH reference stop
E	RH FORWARD BACKER	up/down	Test for the RH reference stop

WORKING MODE SELECTION MENU'



N°	FUNCTION	STATE	DESCRIPTON
A	PROGRAM SELECTION	MAN/AUT (manual/automatic)	Programming mode
B	V-H DRILL ORDER	SYN/ASY (synchronous/asynchronous)	Drilling sequence for vertical and horizontal heads
C	AUTO-PROGR	MAN/CON (manual/continuous)	Feeding belt unit working mode
D	NUMBER OF OPERATORS	1/2	Number of operators for load/unload operation (2 = OK line working)

V-H DRILL ORDER = SYN: the vertical and horizontal head units move at the same time
V-H DRILL ORDER = ASY: the horizontal head units move after that the vertical head units have moved (used to avoid collision)



DANGER OF COLLISION: VERTICAL AND HORIZONTAL DRILLS CAN COLLIDE AND CRUSH!!!
When you work with horizontal and vertical head units close together at the same time, please remember to verify that the distance between vertical hole and external edge of the panel is larger than the horizontal drilling depth

TIME PROGRAMMING MENU'

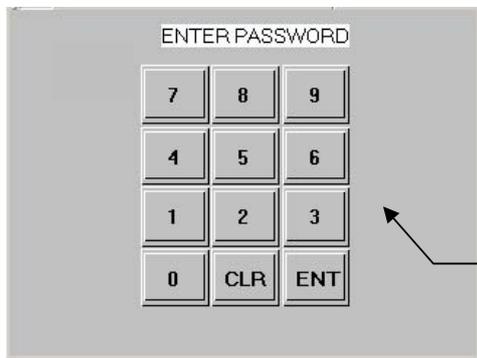
TIMER PROGRAM	
FUNCTION	Sec.
T1:Clamping Cylinder press time	0.0
T2:Boring Box drill time	0.0
T3:Boring Box Drill Finish move down time delay	0.0
T4:Vert./Horiz. Boring Box successively time delay	0.0
T5:One Operator operat feeding belt re-rotation time delay	0.0

EXIT MENU

TIME DURATION (IN SECONDS) FOR THE CORRESPONDING TIME FUNCTION

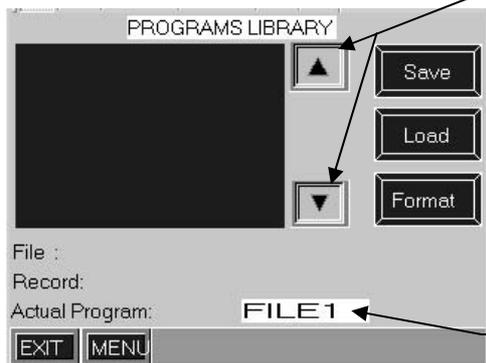
All the values for time functions can be modified using a password
The correct values as have been inserted in the factory, so it should not be necessary to make any modifications

TYPE	DESCRIPTION
T1	Drilling time delay after pressing cylinder
T2	Pressing units activation time delay
T3	Horizontal head time delay after end of drilling
T4	Vertical unit going down time delay after end of drilling
T5	Drilling time delay for vertical/horizontal head units in asynchronous mode
T6	One operator, time delay of the pushing cylinder
T7	Two operators, time delay of feeding belt re-activation
T8	Two operators, time delay between two consecutive cycles of feeding belt units
T9	Pushing cylinder activation time delay
T10	Pressing units activation time delay after rack insertion



KEYBOARD FOR PASSWORD INSERTION

PROGRAM LIBRARY SELECTION



PROGRAM SELECTION BUTTON

PROGRAM SAVE BUTTON

PROGRAM LOAD BUTTON

PROGRAM CANCEL BUTTON

NAME OF THE PROGRAM CURRENTLY USED

15. MAINTENANCE

WE ADVISE YOU TO DISCONNECT THE MACHINE FROM POWER SUPPLY AND FROM THE PNEUMATIC SYSTEM WHENEVER YOU NEED TO SERVICE THE MACHINE OR TO REPLACE DAMAGED OR WORN PARTS. FOLLOW THE PROCEDURES INDICATED BELOW AND PAY ATTENTION TO THE ADVICE GIVEN IN PARAGRAPH "INDIVIDUAL PROTECTION DEVICE" OF THIS MANUAL

15.1 DISCONNECTING PROCEDURE

Before starting any maintenance intervention on the machine, follow this procedure:

1. Make sure the machine is in a suitable position to carry out the needed intervention. After having fastened the machine mechanically in this position, disconnect the machine from power supply and pneumatic system.
2. Make sure the machine is not connected to any other energy supply and that no residual power is left.

It is essential that this procedure is carried out by a single person only, who will then have to make the state of the machine known by attaching a visible sign.

15.2 PREVENTIVE CHECKS

Make sure the area surrounding the machine is neat and clean and that no working scraps are left around, such as saw dust and wood pieces.

Make sure all safety and protection devices are in place, in good working order and ready for the machining that have to be carried out.

15.3 BORING DEPTH

Usually use a scrap wood piece to test the machine settings before boring a good piece of wood.

15.4 ROUTINE MAINTENANCE



ADEQUATE SERVICING IS A FUNDAMENTAL FACTOR IN GUARANTEEING LONGER LIFE TO THE MACHINE AND TO KEEP THE MACHINE ITSELF IN OPTIMAL WORKING ORDER.
ALL MAINTENANCE OPERATIONS MUST BE CARRIED OUT WHILE THE MACHINE IS SWITCHED OFF.
ALWAYS WEAR PROTECTIVE GLOVES AND GOGGLES.



CAUTION – SLIPPING DANGER!

While cleaning the working area, mind working scraps and liquids on the floor around the machine, since they might cause the operator to slip.

MACHINE CLEANING (DAILY)

The machine and the working area must be kept clean from wood scraps or any other object that might hamper the working cycle or might prevent the operator from easily reaching the machine itself. The machine must be cleaned daily. Make sure that material that is not needed to operate the machine cannot accumulate on the machine itself, thus preventing the machine from functioning safely and jeopardising the operator during the every-day working cycle.

RAILS CLEANING (WEEKLY)

Rails and slide shafts must be kept clean from working scraps since these scraps might hamper movements of the machine and damage its performance. Do not use detergents or lubricants.

ELECTRICAL CABLES CHECK

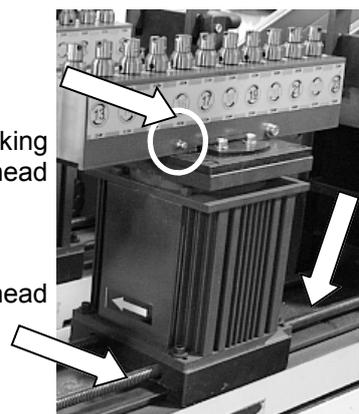
Monitor electrical cables condition. Make sure they are not worn out or abraded.

SPINDLE HEAD LUBRICATION

Add lubricant grease like PERSIAN POLIGREASE EP2 almost every 100 working hours on the vertical and horizontal heads through the greaser placed on the head body .

MOVING SCREW (ON VERTICAL HEAD UNITS)

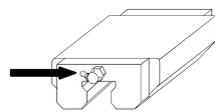
Clean daily and lubricate periodically the moving screws placed on each vertical head unit



RUNNER BLOCKS LUBRICATION

The vertical head units and the right mobile horizontal head unit move on runner block. Lubricate the runner blocks about every 300 working hours acting on the manual greaser device located in the left rear part of the machine, close to the main electric board
The runner blocks of the units moving along the two fences (both left and right) have to be lubricated manually about every 300 working hours through the greaser nipples.

Please remember to check periodically the level of the grease in the grease tank and fill it if necessary (use CASTROL MAGNA CFX220 or such a oil).



15.5 EXTRAORDINARY MAINTENANCE

- Make sure electrical system is safe.
- Check clamping of mechanical components.
- Check lubricating oil level in air-filtering unit and refill if necessary.
- Make sure the machine is lubricated regularly.
- Check air pressure. Line feed must be at 6 bar.
- Check condensate level: condensate and compressed air impurities settle in the transparent sump in the air-purification system.
- Make sure spindleheads are lubricated.

16. COMMON FAILURES - CAUSES AND SOLUTIONS

Some failure causes can be eliminated by the operator himself, while others failures need qualified personnel intervention.



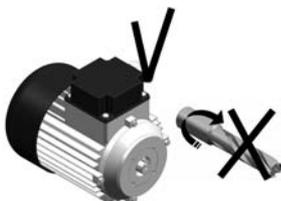
CAUTION: BEFORE CARRYING OUT ANY INTERVENTION YOU MUST STRICTLY FOLLOW THE MACHINE DISCONNECTING PROCEDURE

DRILLS ARE NOT TURNING



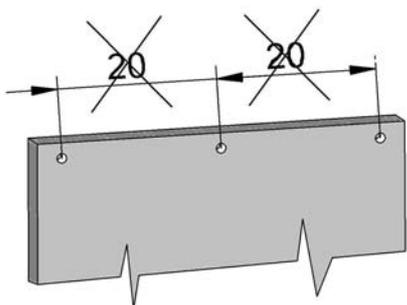
POSSIBLE CAUSE	WHAT TO DO
A - The engine not running B - The engine is burnt out	- Press the engine operational button - Release emergency pushbutton and/or check fuses - Check air pressure (to switch pressure switch on) - Replace the engine

ENGINE IS RUNNING BUT DRILLS ARE NOT TURNING



POSSIBLE CAUSE	WHAT TO DO
Possible breakage in -gears and/or keys Transmission joint	- Sostituire (chiamare il servizio d'assistenza)

HOLE IS NOT PRECISE



POSSIBLE CAUSE
- Drill is not clamped correctly - Drills are worn - Piece to be worked is not clamped correctly

WHAT TO DO
- Check clamping. If it is correct call service intervention. - Replace or call technical service - Check hold down clamps, hold down clamps gaskets and working pressure

17. PROBLEMS THAT MIGHT OCCUR DURING MACHINE WORKING CYCLE

DRILLS LEAVING SCORCH MARKS

This problem might occur if the piece is not positioned correctly on the table, if drills are worn or are turning in the opposite direction.

BORED PIECES ARE NOT PARALLEL TO STOP

This problem might be due to the fact that the drills are not parallel to reference stop. Check head position to stop and make sure drills line in head 1 and 2 (and in the others) is parallel.

HOLD DOWN CLAMPS CANNOT CLAMP WOOD PIECE

If hold down clamps cannot clamp pieces, check air pressure and connection pipes.

To solve these problems, we suggest that you contact MAGGI Post-sale Assistance Service or your local dealer.

18. NOISE LEVEL

Assuming the machine is functioning properly and that tool balancing and sharpness are correct, noise emissions can vary according to the material being worked, to drills diameter and to boring depth. Length of time operators are expected to stay close to the machine can vary over the 8-hour working day.

Other factors play a role in determining the exposition level, such as surrounding environment and other sources of noise as well as the presence of other machines nearby. We advise you to inform operators about risks resulting from a long exposition to noise and, if necessary, provide them with suitable individual protection devices.

The acoustic pressure level detected with a class-1 integrating noise meter at operator's working position is **76.1dB (A)**.

This measurement has been carried out in compliance with ISO 3745 standard. During this measurement, the machine was functioning at steady state as far as pressure and speed were concerned, and was drilling a wooden shaving panel with PVC covering. The measurement has been carried out at a 1.5-meter height in front of the machine at the operator's working location.

The following reference measurements have been obtained by following the same procedure:

Acoustic pressure level in Atm. dB(A):78.3

Acoustic power level dB(A):93.3

The indicated noise levels are emission levels and do not necessarily represent safe operation levels. Even though there is a relation between emission levels and exposure levels, it cannot be used in a reliable way to determine whether additional precautions are to be taken.

The factors that determine the exposure level that manpower is subjected to include the length of the exposure, the characteristics of the working place, other sources of dust and noise, etc., that is the number of machines and other adjacent processing.

Allowed exposure levels may vary from country to country. In any case, this information will help the user of the machining centre to better evaluate danger and risks.

19. DUST EMISSIONS

These are the results of a test carried out to determine the level of dust emissions during a non-stop working hour, while a 20 mm-thick fir panel with PVC covering was being bored. Dust emissions amounted to 13.9 mg/N cu.m at operator's working location, which is at a 1.5-meter height in front of the machine.

20. PUTTING THE MACHINE OUT OF COMMISSION

If the machine has to be put out of commission, the following instructions will have to be followed strictly so as to guarantee people's safety and to protect the environment around the machine.

Therefore, after disconnecting the machine it is advisable to:

- Disassemble drills and put them in a suitable container, where they will be stored and protected from damage.
- Disassemble electrical, pneumatic and hydraulic components so that they can be re-used after an inspection or an overhaul.
- Empty oil out of hydraulic gearcase without spilling it into the environment.
- Disassemble all metallic components in the machine and divide them into separate groups according to material.
- Call a firm specialised in material regeneration and disposal (solid and liquid materials).

21. TERMS OF GUARANTEE

The guarantee provided with this certificate is valid for the period of one year from the date of purchase. Consequently, during such guarantee period, Maggi Engineering s.r.l. undertakes to replace any parts found to be faulty because of manufacturing defects. Only carriage expenses will be on the customer's account. The guarantee is void if the machine has been used improperly or damaged during transport. The guarantee is not applicable to electric power system and all its components.

22. GUARANTEE CERTIFICATE

The machine has been built according to technological and safety criteria and has been checked in our factory before being forwarded.

MAGGI ENGINEERING guarantees machine working and quality in agreement with law rules, for a period of 12 months. Improper use and incorrect maintenance, not following the rules contained in this manual, as well as adjustments or modifications not approved by the manufacturer, cancel all the terms of guarantee. The conditions of guarantee about the correct working of the machine are strictly connected to the respect of all the indications described in the

USE AND MAINTENANCE MANUAL

The free replacement of any parts found to be faulty is done only after having checked that the machine had been properly used.

Claims and guarantee interventions request are accepted only against presentation of the machine number engraved into the identification plate.

Upon receipt of the machine carefully check that packaging is safe and not damaged. Except for different agreement, the manufacturer is not responsible for any damages done during transport.

In case of evident damages on packaging, we suggest to contact immediately the carriers. Our firm will be available to give the necessary support.



COUPON TO BE FORWARDED TO THE MANUFACTURER



GUARANTEE AND LOOK-OVER COUPON

Model.....Serial number.....

Name.....

Address.....

ZIP Code.....City.....

Date of purchase..... Dealer.....

Owner's signature

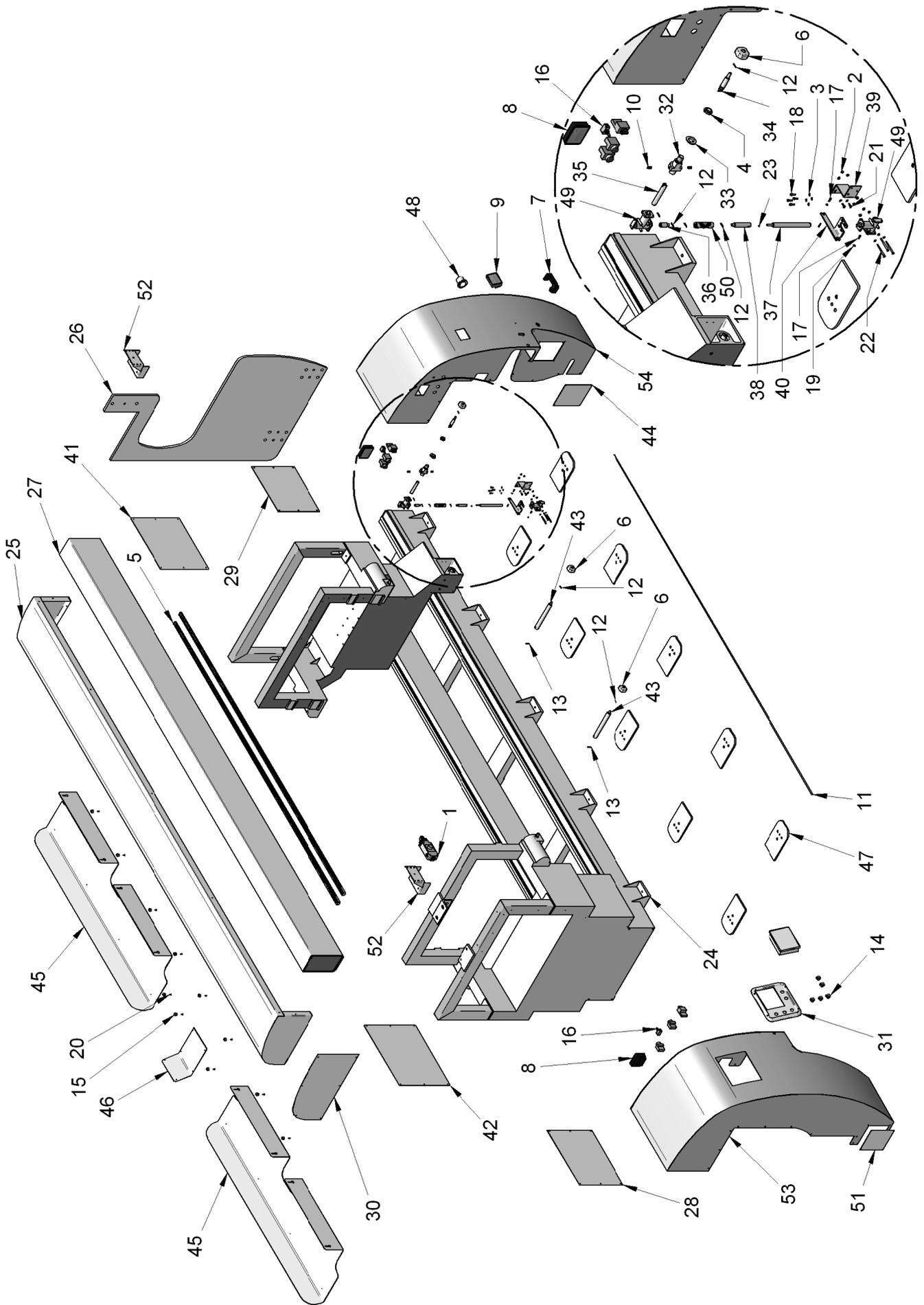
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The purchaser states to accept all the terms of guarantee and to have checked the machine to work well

23. SPARE PARTS CATALOGUE BS240 - 4V



2655000 FRAME GROUP



26550000 FRAME GROUP

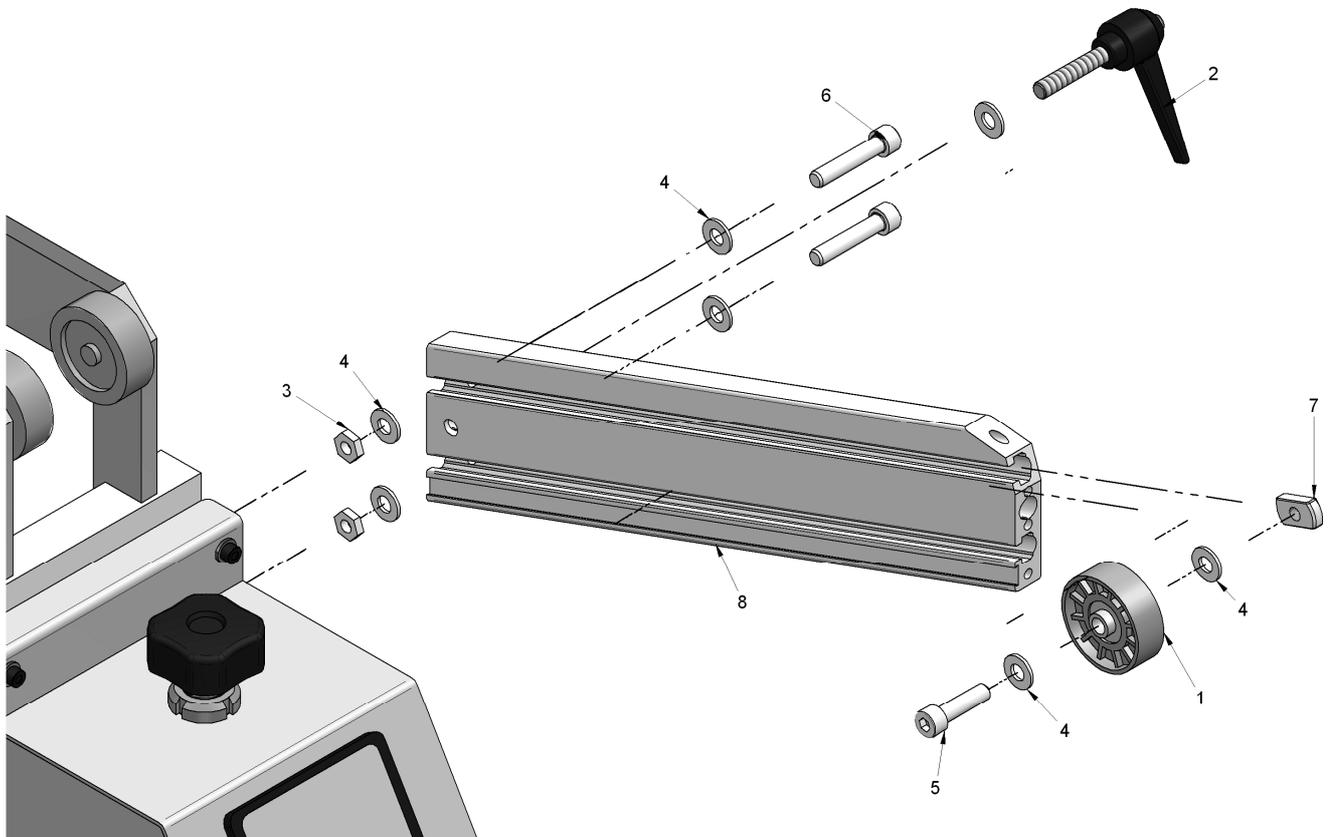
POS.	CODE	PART NAME	QUANTITY
1		TELEMECANIQUE CABLE STOP	1
2	00000139	NUT M5 UNI-5588 6S ZINC.	9
3	00000140	PLAIN WASHER Ø5 UNI-6592 ZINC.	9
4	00000175	SELF-LOCKING LOCKRING M20x1	1
5	00003048	GUIDA EGR 25H (63615-2) L=2560	2
6	00003126	ARM-WHEEL BOTECO ART. G733-50 D10	3
7	00003989	HANDLE PMX 5/2-105-52-6-40	1
8	00003991	DISPLAY ELGO MS Z-16 20-25 CAVO 1000mm	2
9	00003998	DISPLAY ELGO MS Z-16 20-25 CAVO 1500MM	1
10	00004047	ELESA GN33131-GN615-M8-K	2
11	00004056	MAGNETIC STRIP MB2025 L=3100 ELGO	1
12	00004289	PIN 3x20 DIN1473	8
13	00004315	ELASTIC PIN Ø6x24	2
14	00005093	LINE LAMP (21-23-29-35-46)	5
15	00005201	SHOCK ABSORBER	16
16	00015229	FLOW REGULATOR G1 8-COD-6-01-18-NE	2
17	00018290	SCREW VTCEI M4x12	2
18	00018299	SCREW VTCEI M5x16 UNI5931 ZINC.	4
19	00018531	PLAIN WASHER Ø4 UNI-6592 ZINC.	2
20	00020402	SCREW VTCEI M4 x 8 - 5931	16
21	00030505	SCREW VTCEI M5x14	2
22	00030515	SCREW VTCEI M5X60	3
23	00130500	SCREW STEI M5X5 P.C. UNI-5927	1
24	36550007	FRAME GROUP	1
25	36550013	UPPER COVER	1
26	36550018	SHOULDER	1
27	36550019	BEAM GROUP	1
28	36550034	COVER	1
29	36550035	COVER	1
30	36550042	COVER	1
31	36550047	TOP	1
32	36550060	SIDE AXIS SUPPORT	1
33	36550061	MACHINED PLAIN WASHER	1
34	36550062	SIDE JOINT	1
35	36550063	SIDE AXIS	1
36	36550064	CONNECTOR	1
37	36550065	SIDE MALE CARDANIC AXIS	1
38	36550066	SIDE MALE CARDANIC AXIS	1
39	36550067	LOWER SIDE GEARBOX SUPPORT	1
40	36550068	UPPER SIDE GEARBOX SUPPORT	1
41	36550071	RIGHT COVER	1
42	36550072	LEFT COVER	1
43	36550079	FEEDING BELD SHAFT	2
44	36550091	TOP	1
45	36550092	CABLE SUPPORT	2
46	36550093	CABLE SUPPORT END	1
47	36550094	PLATE	10
48	36550117	TOP COVER	1
49	36550126	GEARBOX	2
50	36551004	DOUBLE CARDANIC JOINT Øi 10 L=74,5	1
51	36551008	FIXED SIDE COVER	1
52	36551095	CABLE STOP SUPPORT	2
53	56550021	FIXED SIDE COVER GROUP	1
54	56550033	MOBILE SIDE COVER GROUP	1

26550100 - VERTICAL HEAD UNIT

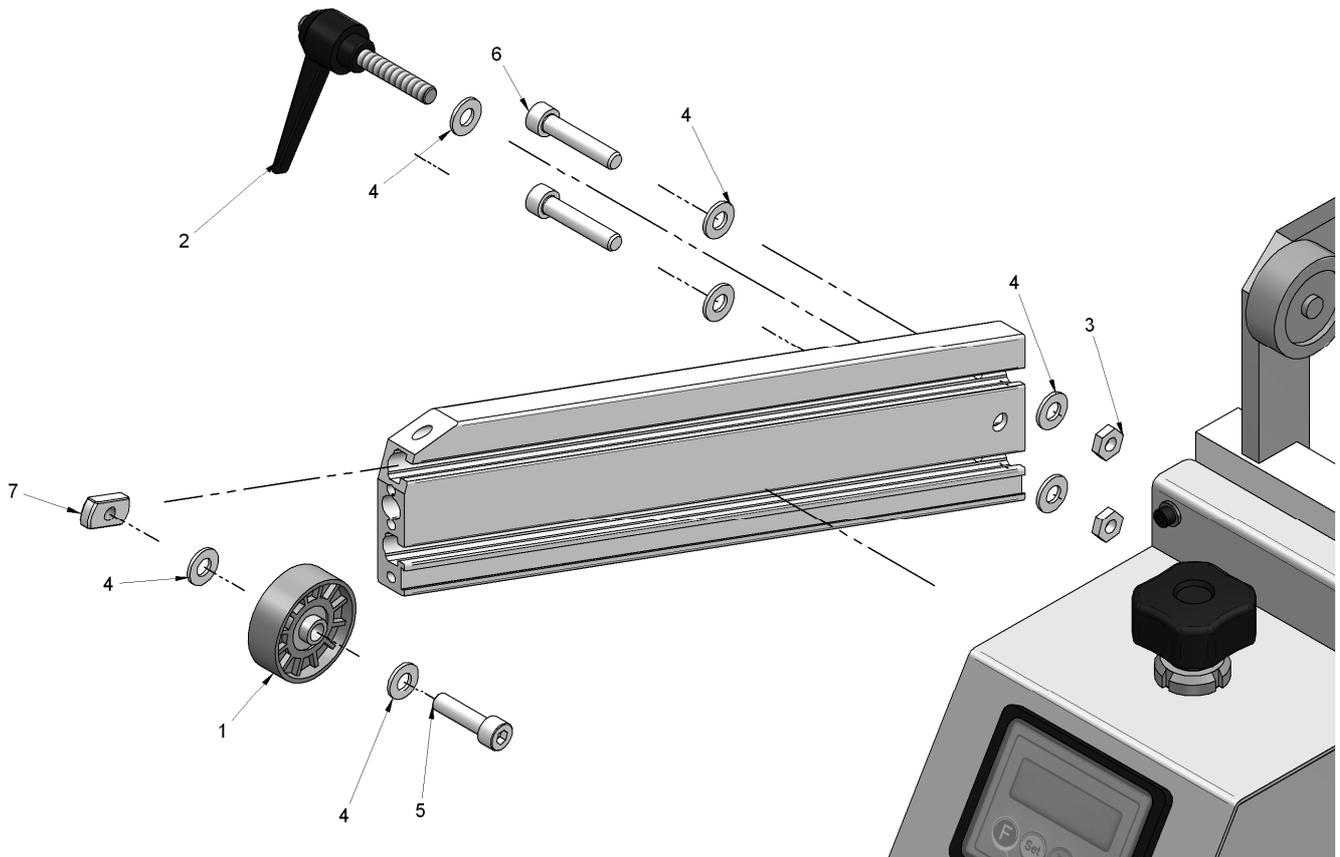
POS.	CODE	PART NAME	QUANTITY
1	0000041	WASHER SCHNOR M6	2
2	00000139	NUT M5 UNI-5588 6S ZINC.	9
3	00000140	PLAIN WASHER Ø5 UNI-6592 ZINC.	11
4	00000168	SELF-LOCKING LOCKRING M17x1	1
5	00000175	SELF-LOCKING LOCKRINGM20x1	1
6	00003126	HAND-WHEEL BOTECA ART. G733-50 D10	4
7	00003961	COUNTER VO-DX-2.0 AR.D.14	1
8	00003967	COUNTER VO-DX-3.0 AR.D.14	2
9	00003991	DISPLAY+ ELGO MS Z-16 20-25 CAVO 1000mm	1
10	00004019	HANDLE MAP00002	1
11	00004047	ELESA GN33131-GN615-M8-K	2
12	00004289	PIN 3x20 DIN1473	4
13	00004380	ELASTIC PIN De4x26	3
14	00005015	BRONZE BUSH Ø14-Ø10-L14	3
15	00015229	FLOW REGULATOR G1 8-COD-6-01-18-NE	1
16	00018290	SCREW VTCEI M4x12	4
17	00018292	SCREW VTCEI M5x40 UNI5931 ZINC.	2
18	00018299	SCREW VTCEI M5x16 UNI5931 ZINC.	6
19	00018325	SCREW TCEI M6X16 UNI-5931 ZINC.	2
20	00018404	SCREW TE M8x35 UNI-5739 ZINC.	4
21	00018419	SCREW VTSPEI M4x16	8
22	00018500	NUT M6 UNI-5588 6S ZINC.	2
23	00018501	NUT M8 UNI-5588 6S ZINC.	4
24	00018520	PLAIN WASHER Ø6 UNI-6592 ZINC.	4
25	00018531	PLAIN WASHER Ø4 UNI-6592 ZINC.	4
26	00018532	PLAIN WASHER Ø3 UNI-6592 ZINC	2
27	00020402	SCREW VTCEI M4 x 8 - 5931	2
28	00020500	SCREW VTCEI M3x15	2
29	00030505	SCREW VTCEI M5x14	2
30	00030515	SCREW VTCEI M5X60	3
31	00130801	SCREW VTSTEI M5x16 UNI5929	3
32	26550102	DUMPER VERTICAL HEAD	1
33	27400801	VERTICAL HEAD GROUP	2
34	36550100	SMALL CHARIOT	1
35	36550102	CHARIOT CARTER COVER	1
36	36550108	UPPER GEARBOX SUPPORT	1
37	36550109	LOWER GEARBOX SUPPORT	1
38	36550110	BUSH GEAR Z16	1
39	36550111	AXIS SUPPORT	1
40	36550112	AXIS	1
41	36550113	JOINT	1
42	36550114	Z-AXIS	3
43	36550122	BUSH Ø12	1
44	36550126	GEARBOX	1
45	36550127	GEAR Z22 M2	1
46	36550128	GEAR Z16 M2	1
47	36550129	SENSOR SUPPORT	1
48	36550131	COVER	1
49	36550134	REAR CHARIOT CARTER COVER	1
50	36550138	MOTOR JOINT	2
51	36550139	MOBILE PLATE	1
52	36550153	HEAD STOP CYLINDER	2
53	36550154	PROFILE	4
54	36550155	BRUSH	4

PANEL SUPPORT GROUP LH / RH

PANEL SUPPORT GROUP LH



PANEL SUPPORT GROUP RH



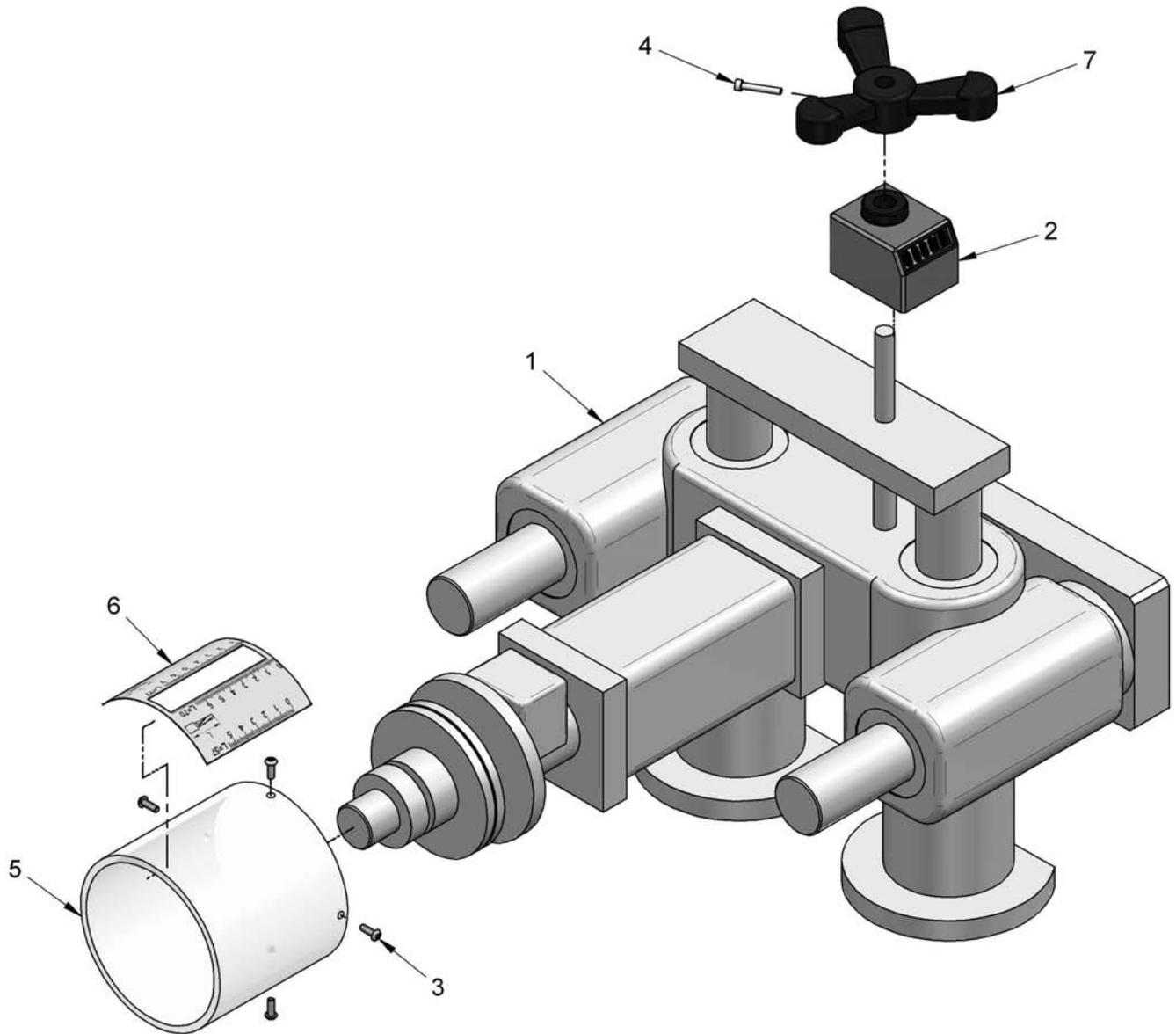
PANEL SUPPORT GROUP LH

POS.	CODE	PART NAME	QUANTITY
1	00003043	PLASTIC WHEEL	1
2	00004020	SNAP LEVER ART 523-65 M8x40	1
3	00018502	NUT M8 UNI-5589 6S ZINC.	2
4	00018521	PLAIN WASHER Ø8 UNI-6592 ZINC.	7
5	00050807	SCREW VTCEI M8x30	1
6	00050809	SCREW VTCEI M8x40	2
7	36050801	DOWEL	1
8	36550157	LH PANEL SUPPORT	1

PANEL SUPPORT GROUP RH

POS.	CODE	PART NAME	QUANTITY
1	00003043	PLASTIC WHEEL	1
2	00004020	SNAP LEVER ART 523-65 M8x40	1
3	00018502	NUT M8 Basso UNI-5589 6S ZINC.	2
4	00018521	PLAIN WASHER Ø8 UNI-6592 ZINC.	7
5	00050807	SCREW VTCEI M8x30	1
6	00050809	SCREW VTCEI M8x40	2
7	36050801	DOWEL	1
8	36550156	RH PANEL SUPPORT	1

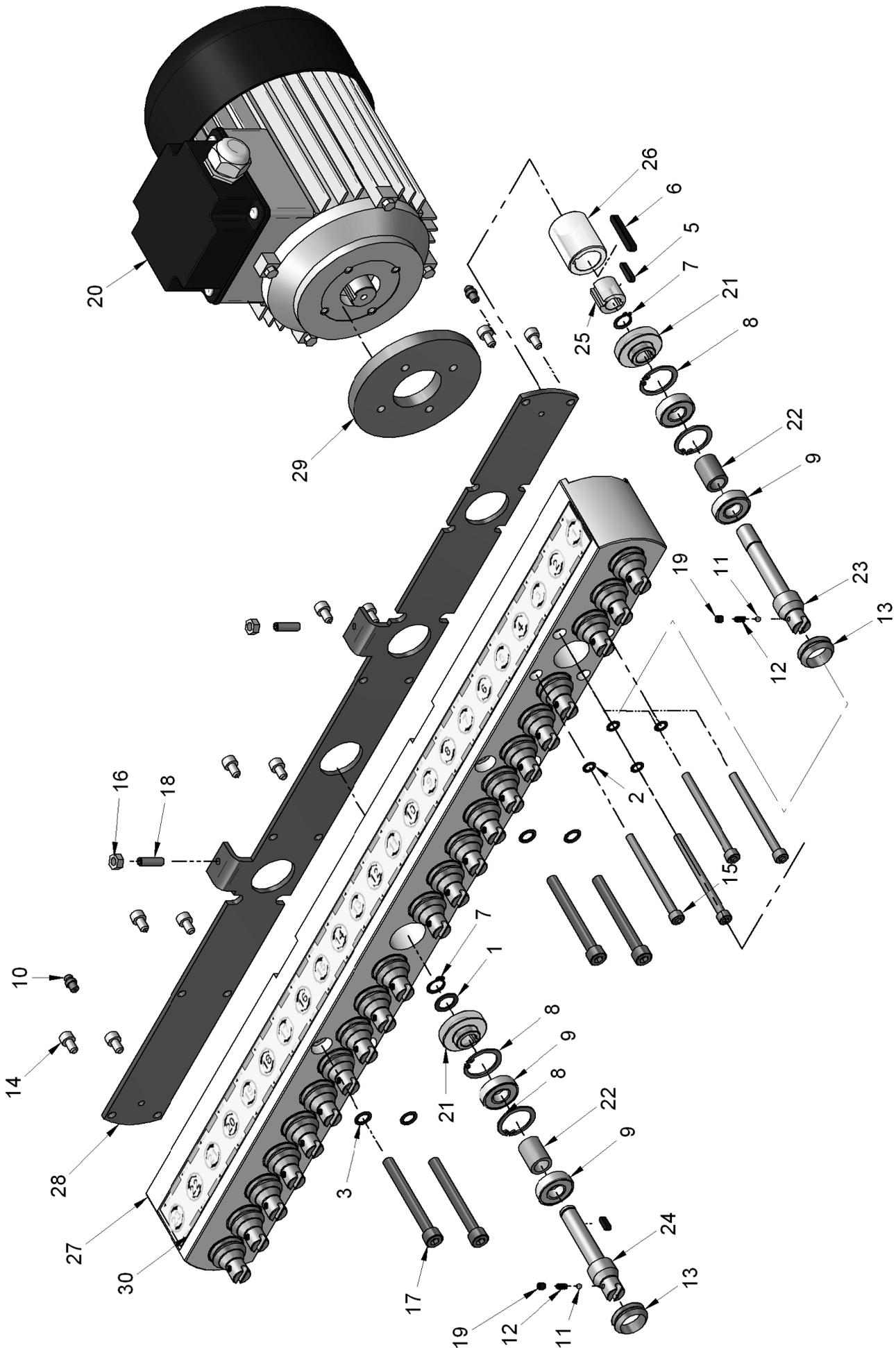
26550901 - HORIZONTAL SPINDLE HEAD UNIT



26550901 - HORIZONTAL SPINDLE HEAD UNIT

POS.	CODICE	DENOMINAZIONE	QUANTITA'
1	*	HORIZONTAL SPINDLE HEAD UNIT	1
2	00003968	COUNTER MD50-AR 2,0 DX ARAN.+BOCC.D15	1
3	00018619	SCREW VTBEI M4 x 12 ISO 7380	4
4	00020410	SCREW VTCEI M4x25 BRUNITA	1
5	36550912	DEPTH PROTECTION	1
6	36551910	DEPTH ADHESIVE	1
7	36800506	THREE ARM HANDWHEEL	1

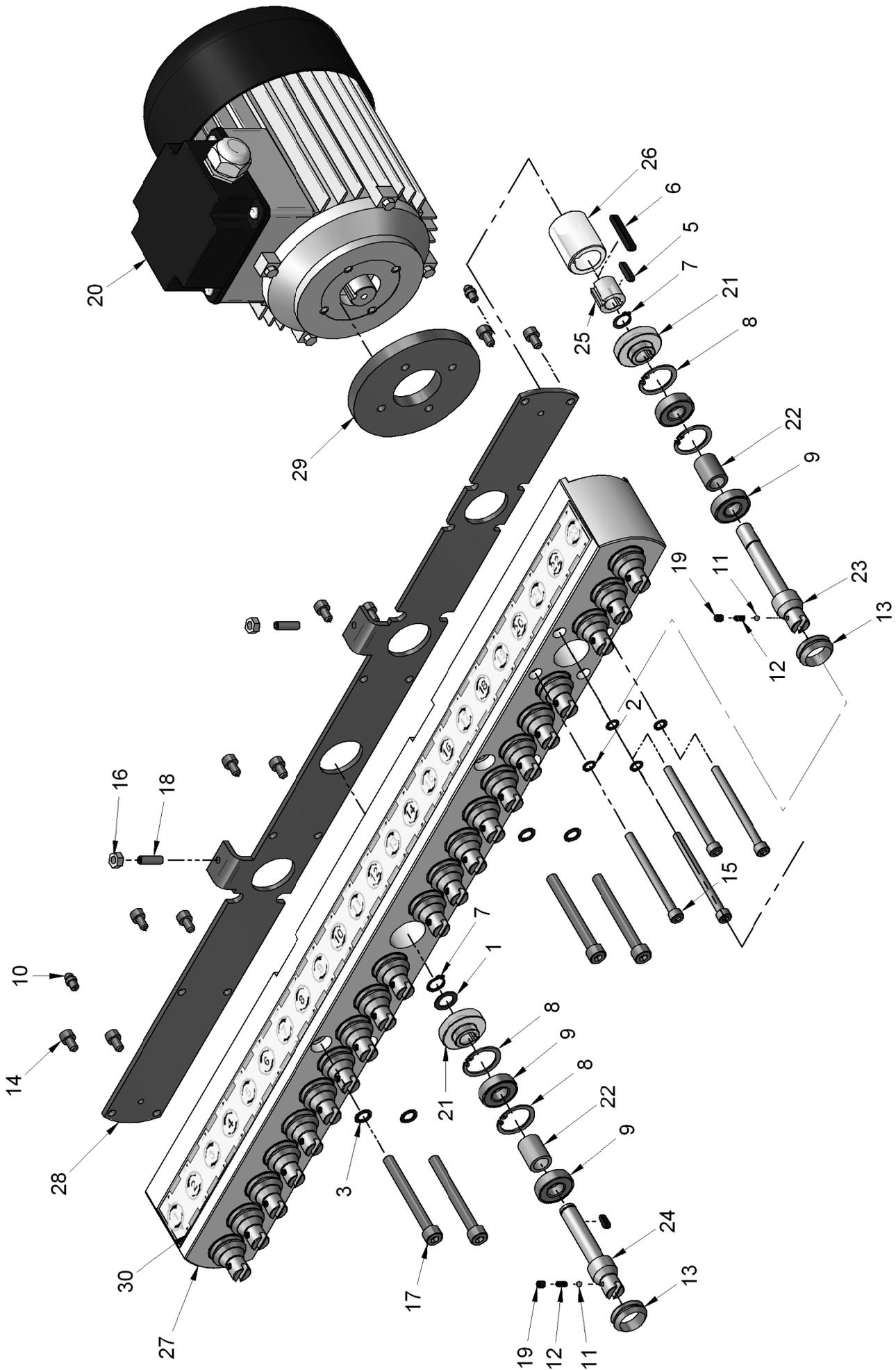
26550904 - LH 23 SPINDLES HEAD GROUP



26550904 - LH 23 SPINDLES HEAD GROUP

POS.	CODE	PART NAME	QUANTITY
1	0000037	WASHER PS Ø12X18X1	22
2	0000041	WASHER SCHNOR M6	4
3	0000042	WASHER SCHNOR Ø8	4
4	0000211	PARALLEL KEY 4x4x12 UNI-6604 A	23
5	0000250	PARALLEL KEY 4x4x18	1
6	0000253	PARALLEL KEY 5x5x35	1
7	00003305	SEEGER RING E12	23
8	00003337	SEEGER RING I 28	46
9	00003424	BALL BEARING 6001 2RS1	46
10	00003703	GREASER	2
11	00004103	BALL 1 / 8	23
12	00005025	SPRING Ø4 L=9	23
13	00005097	GASKET Øi 20 Øe 25,5	23
14	00018302	SCREW TCEI M6X10 UNI-5931 ZINC.	10
15	00018326	SCREW TCEI M6X80 UNI-5931 ZINC.	4
16	00018500	NUT M6 UNI-5588 6S ZINC.	2
17	00018655	SCREW TCEI M8x75 UNI-5931 ZINC.	4
18	00100614	SCREW STEI M6X20 P.P. UNI-5923	2
19	00130501	SCREW STEI M5X5 P.P. UNI-5923	23
20	26251701	MOTOR M802T 230-400-50 2HP	1
21	36000062	GEAR Z21	23
22	36000063	BEARING SPACER	23
23	36001059	DRIVING SPINDLE	1
24	36001060	DRIVEN SPINDLE	22
25	36050711	NYLON JOINT	1
26	36050712	MOTOR JOINT	1
27	36052702	CAST IRON HEAD 23	1
28	36052703	HEAD COVER 23	1
29	36250703	MOTOR ROUND PLATE	1
30	36550908	LH SPINDLE PLATE 23	1

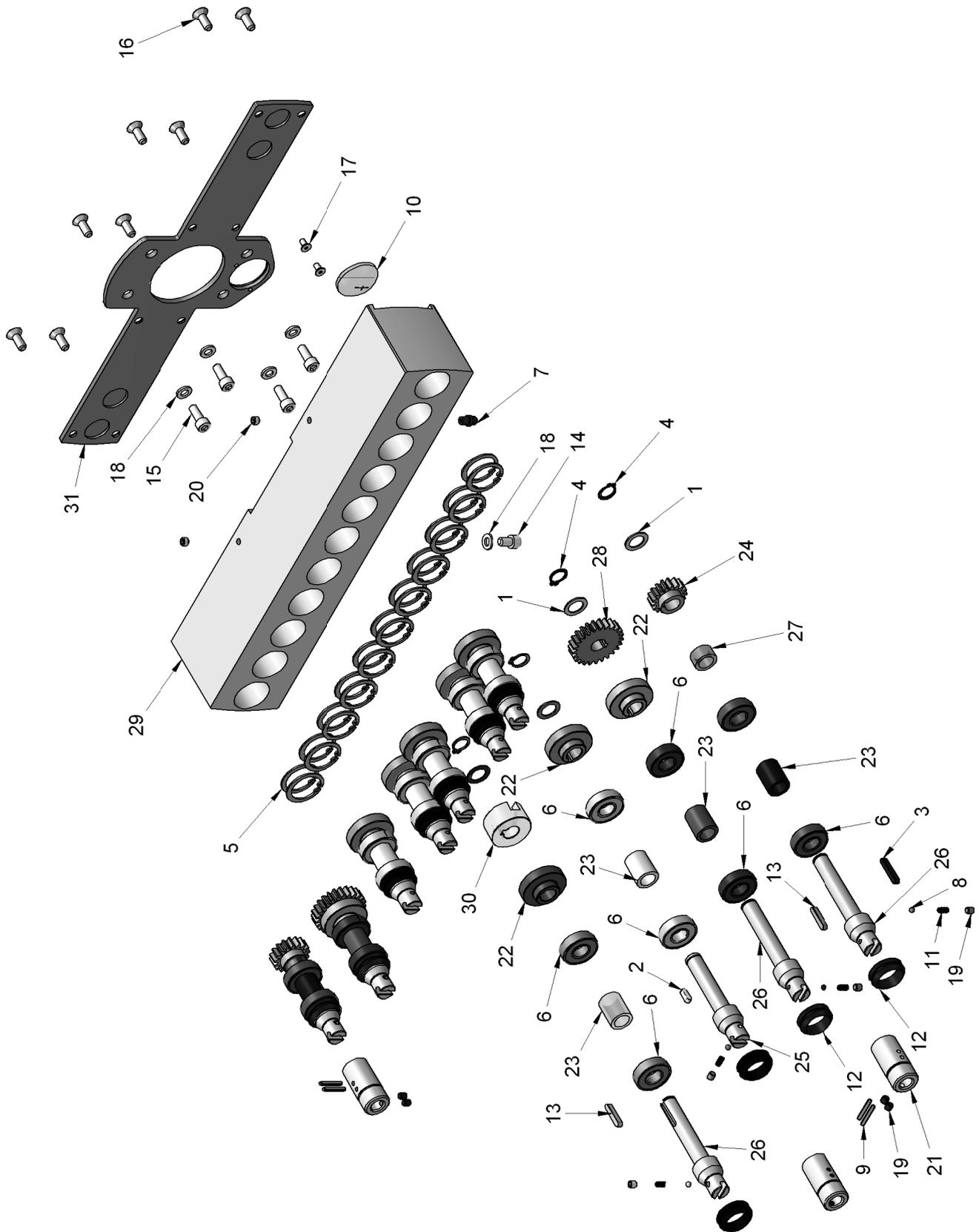
26550905 - RH 23 SPINDLES HEAD GROUP



26550905 - RH 23 SPINDLES HEAD GROUP

POS.	CODE	PART NAME	QUANTITY
1	0000037	WASHER PS Ø12X18X1	22
2	0000041	WASHER SCHNOR M6	4
3	0000042	WASHER SCHNOR Ø8	4
4	0000211	PARALLEL KEY 4x4x12 UNI-6604 A	23
5	0000250	PARALLEL KEY 4x4x18	1
6	0000253	PARALLEL KEY 5x5x35	1
7	00003305	SEEGER RING E12	23
8	00003337	SEEGER RING I 28	46
9	00003424	BALL BEARING 6001 2RS1	46
10	00003703	GREASER	2
11	00004103	BALL 1 / 8	23
12	00005025	SPRING Ø4 L=9	23
13	00005097	GASKET Øi 20 Øe 25,5	23
14	00018302	SCREW TCEI M6X10 UNI-5931 ZINC.	10
15	00018326	SCREW TCEI M6X80 UNI-5931 ZINC.	4
16	00018500	NUT M6 UNI-5588 6S ZINC.	2
17	00018655	SCREW TCEI M8x75 UNI-5931 ZINC.	4
18	00100614	SCREW STEI M6X20 P.P. UNI-5923	2
19	00130501	SCREW STEI M5X5 P.P. UNI-5923	23
20	26251701	MOTOR M802T 230-400-50 2HP	1
21	36000062	GEAR Z21	23
22	36000063	BEARING SPACER	23
23	36001059	DRIVING SPINDLE	1
24	36001060	DRIVEN SPINDLE	22
25	36050711	NYLON JOINT	1
26	36050712	MOTOR JOINT	1
27	36052702	CAST IRON HEAD 23	1
28	36052703	HEAD COVER 23	1
29	36250703	MOTOR ROUND PLATE	1
30	36550909	RH SPINDLE PLATE 23	1

27400800 - 11 SPINDLES VERTICAL HEAD GROUP

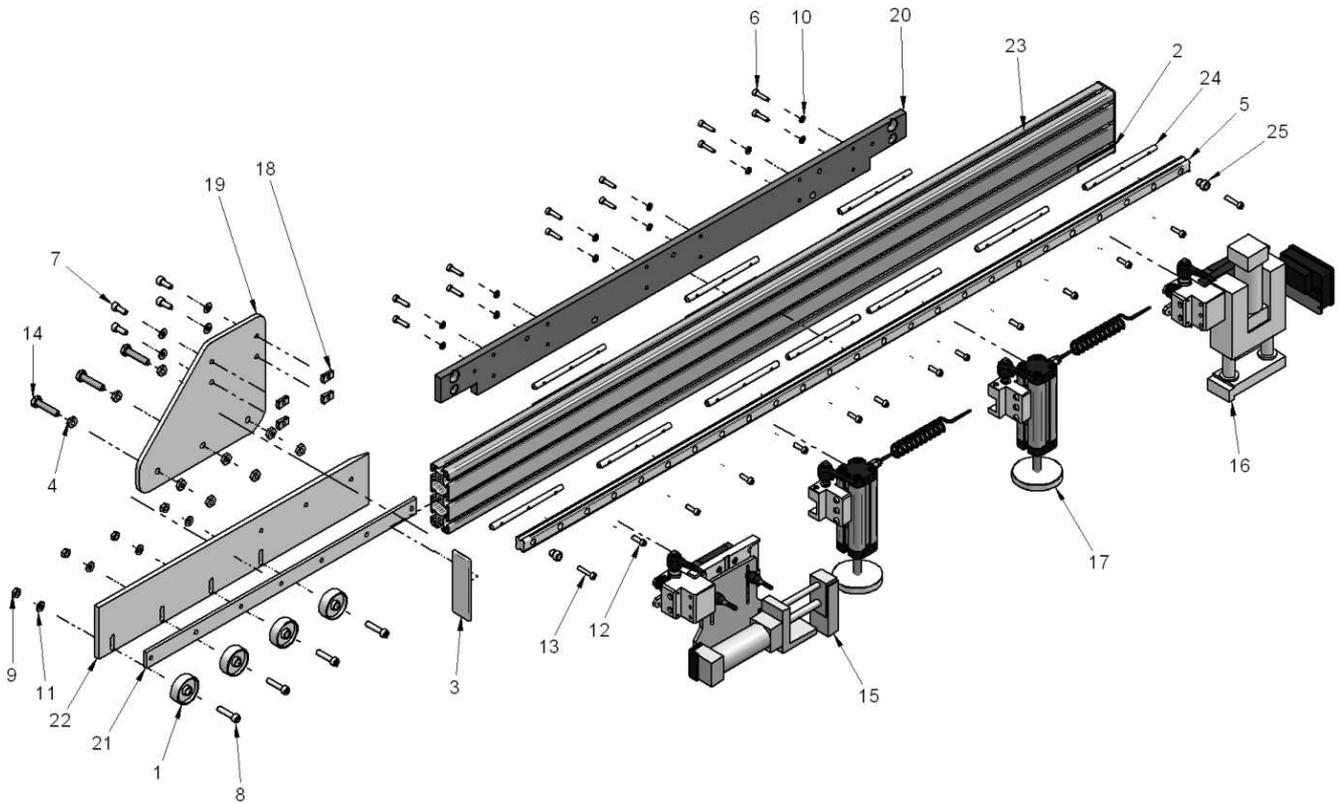


27400800 - 11 SPINDLES VERTICAL HEAD GROUP

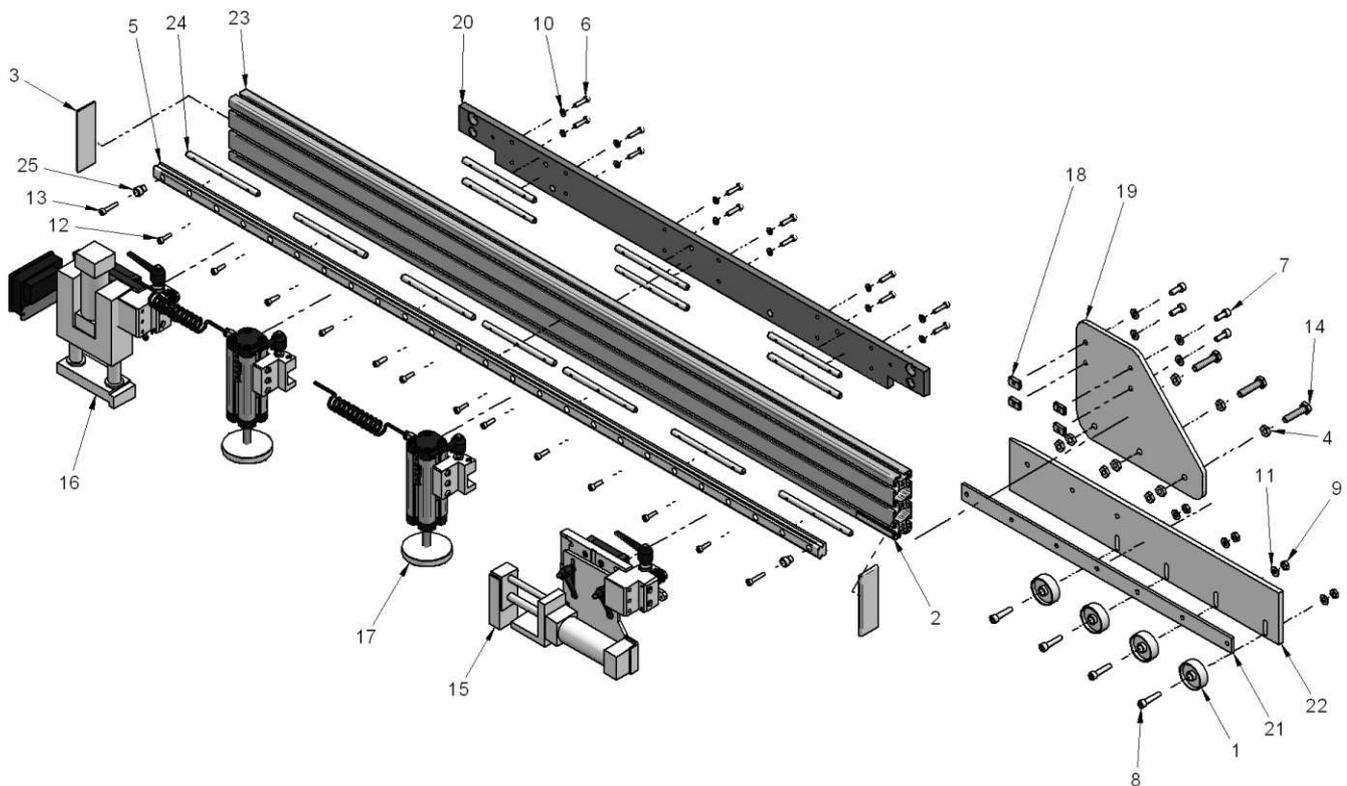
POS.	CODICE	DENOMINAZIONE	QUANTITA'
1	0000037	PLAIN WASHER SPESS. PS Ø12X18X1	11
2	00000211	PARALLEL KEY 4x4x12 UNI-6604 A	6
3	00000212	PARALLEL KEY 4x4x25 UNI-6604 A	2
4	00003305	SEEGER RING E12	11
5	00003337	SEEGER RING I 28	22
6	00003424	BALL BEARING 6001 2RS1	22
7	00003703	GREASER	1
8	00004103	BALL 1 / 8	11
9	00004289	PIN 3x20 DIN1473	6
10	00004321	LENS Ø32 R20 F38	1
11	00005025	SPRING Ø4 L=9	11
12	00005097	GASKET Øi 20 Øe 25,5	11
13	00015822	PARALLEL KEY 4x4x22 UNI-6604 A	3
14	00018302	SCREW TCEI M6X10 UNI-5931 ZINC.	1
15	00018325	SCREW TCEI M6X16 UNI-5931 ZINC.	4
16	00018422	SCREW VTSPEI M6x16	8
17	00018439	SCREW TSPEI M4x8 UNI-5933 ZINC.	2
18	00018520	PLAIN WASHER Ø6 UNI-6592 ZINC.	5
19	00130501	SCREW STEI M5X5 P.P. UNI-5923	17
20	00140603	SCREW SCREW VSTEI M6x8	2
21	36000061	QUICK CHANGE BUSH	3
22	36000062	GEAR Z21	9
23	36000063	BEARING SPACER	11
24	36000307	GEAR M1,5 Z17	2
25	36001060	DRIVEN SPINDLE	6
26	36860805	SPINDLE Z25-Z17	5
27	36860806	SHORT SPACER Z25-Z17	2
28	36860807	GEAR M1,5 Z25	2
29	37400800	CAST IRON HEAD 11	1
30	37401802	MOTOR JOINT	1
31	37401803	HEAD COVER 11	1

26550600 / 26550601 LH / RH FENCE UNIT

26550600 LH FENCE UNIT



26550601 RH FENCE UNIT



26550600 - LH FENCE UNIT

POS.	CODE	PART NAME	QUANTITY
1	00003043	PLASTIC WHEEL WITH BEARING	4
2	00004060	ELGO MAGNETIC STRIP	1
3	49900071	item 0041854 8 120x40 nero	2
4	00000180	LOW NUT M10 UNI-5589 6S ZINC.	9
5	00003051	RAIL EGR 25H (63615-2) L=1480	1
6	00018304	SCREW TCEI M6X25 UNI-5931 ZINC.	12
7	00018322	SCREW TCEI M8X20 UNI-5931 ZINC.	4
8	00018327	SCREW TCEI M8X35 UNI-5931 ZINC.	4
9	00018505	NUT M8	4
10	00018520	PLAIN WASHER Ø6 UNI-6592 ZINC.	12
11	00018521	PLAIN WASHER Ø8 UNI-6592 ZINC.	8
12	00040605	SCREW VTCEI M6x20	12
13	00040608	SCREW VTCEI M6x30	2
14	00361009	SCREW VTE M10x45 5739 bru.	3
15	26550602	LH PUSHING CYLINDER	1
16	26550604	LH REFERENCE STOP GROUP	1
17	26850619	LH PRESSER GROUP	2
18	36050801	PLUG	4
19	36550607	ROLLER HOLDER PLATE SUPPORT	1
20	36550609	LH MACHINE SUPPORT	1
21	36550622	COVER ROLLER HOLDER GUIDE	1
22	36550624	RH ROLLER HOLDER PLATE	1
23	36850613	FENCE	1
24	36850635	CYLINDRIC PLUG	13
25	36950305	STOP	2

26550601 - RH FENCE UNIT

POS.	CODE	PART NAME	QUANTITY
1	00003043	PLASTIC WHEEL WITH BEARING	4
2	00004060	ELGO MAGNETIC STRIP	1
3	49900071	item 0041854 8 120x40 nero	2
4	00000180	LOW NUT M10 UNI-5589 6S ZINC.	9
5	00003051	RAIL EGR 25H (63615-2) L=1480	1
6	00018304	SCREW TCEI M6X25 UNI-5931 ZINC.	12
7	00018322	SCREW TCEI M8X20 UNI-5931 ZINC.	4
8	00018327	SCREW TCEI M8X35 UNI-5931 ZINC.	4
9	00018505	NUT M8	4
10	00018520	PLAIN WASHER Ø6 UNI-6592 ZINC.	12
11	00018521	PLAIN WASHER Ø8 UNI-6592 ZINC.	8
12	00040605	SCREW VTCEI M6x20	12
13	00040608	SCREW VTCEI M6x30	2
14	00361009	SCREW VTE M10x45 5739 bru.	3
15	26550603	RH PUSHING CYLINDER	1
16	26550605	RH REFERENCE STOP GROUP	1
17	26850620	RH PRESSER GROUP	2
18	36050801	PLUG	4
19	36550607	ROLLER HOLDER PLATE SUPPORT	1
20	36550610	RH MACHINE SUPPORT	1
21	36550622	COVER ROLLER HOLDER GUIDE	1
22	36550623	RH ROLLER HOLDER PLATE	1
23	36850613	FENCE	1
24	36850635	CYLINDRIC PLUG	13
25	36950305	STOP	2

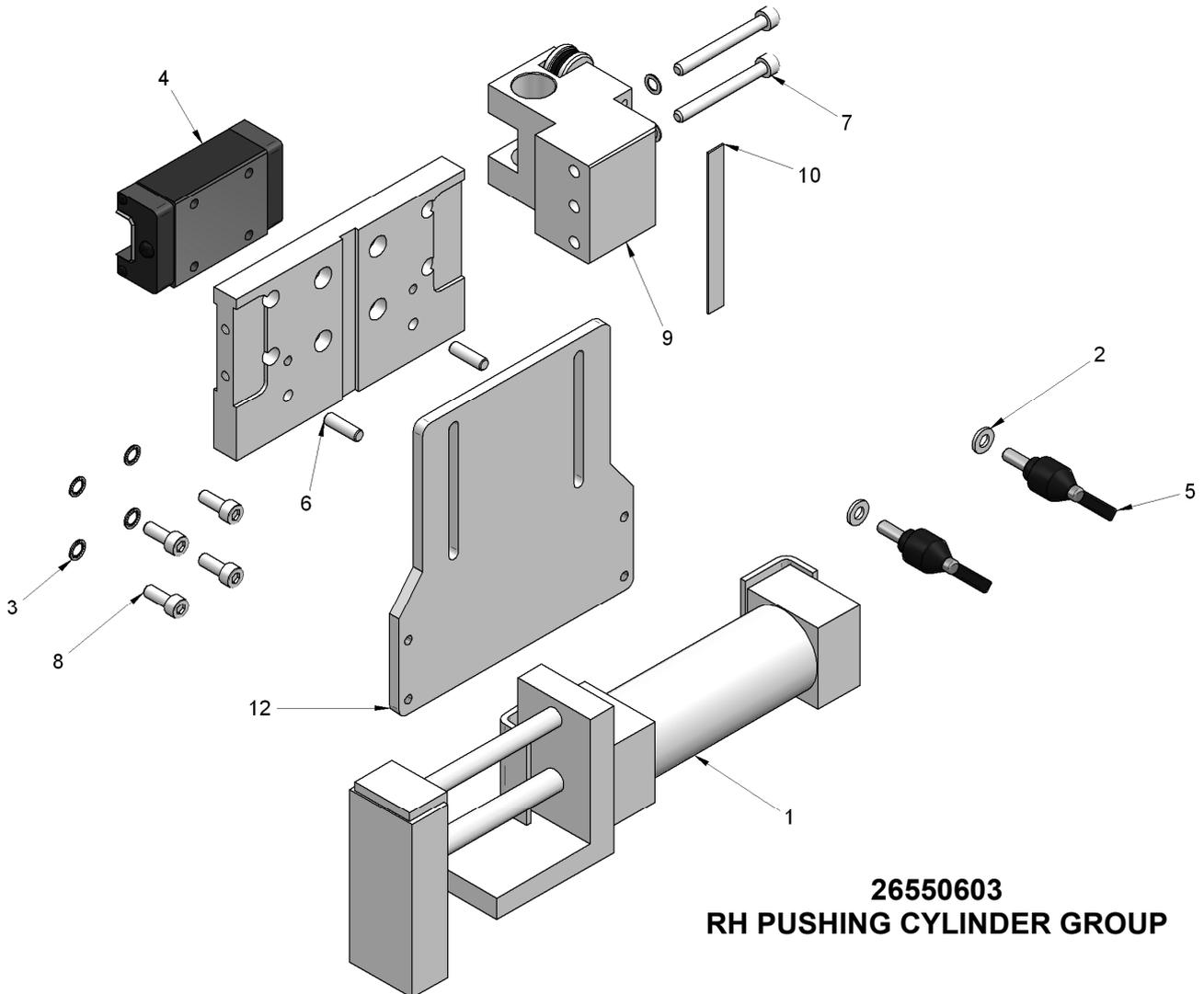
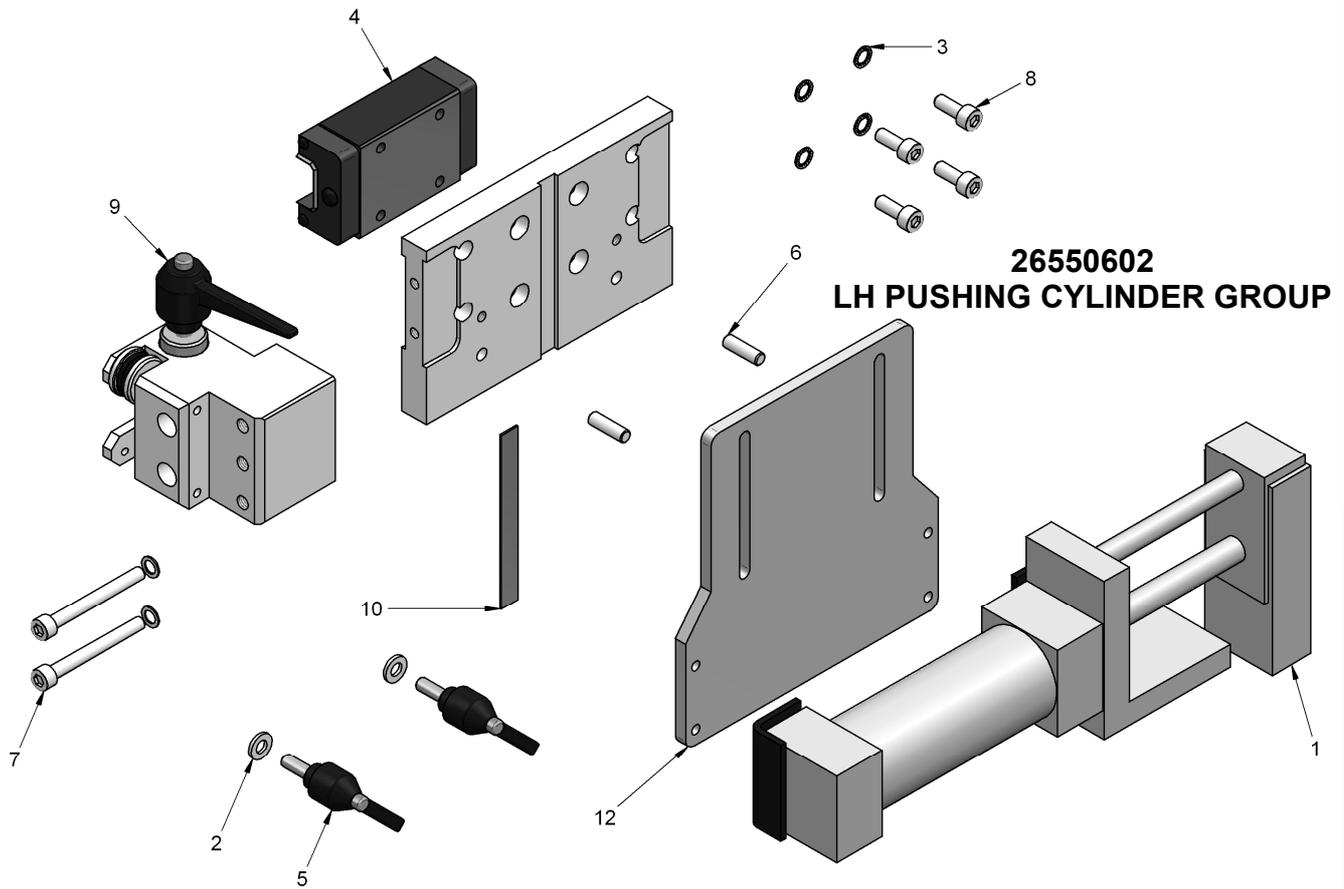
26550604 - LH REFERENCE STOP GROUP

POS.	CODE	PART NAME	QUANTITY
1	*	SUPPORTO PISTONE BATTUTA SX	1
2	00000018	PLAIN WASHER Ø4 UNI-6592 BRUN.	2
3	00000041	WASHER SCHNOR M6	6
4	00000042	WASHER SCHNOR Ø8	4
5	00003049	RUNNER BLOCK EGH 25C (A-Z0-H)	1
6	00003992	DISPLAY ELGO MS Z-16 20-25 CAVO 300mm	1
7	00015603	END-STROKE SENSOR MATSUSHITA ABV1212618	1
8	00018319	SCREW VTCEI M6x55 ZINC.	2
9	00018322	SCREW TCEI M8X20 UNI-5931 ZINC.	4
10	00018430	SCREW VTBCEI M6x12	4
11	00018511	NUT M3 UNI5587 ZINC	2
12	00018531	PLAIN WASHER Ø4 UNI-6592 ZINC.	4
13	00018532	PLAIN WASHER Ø3 UNI-6592 ZINC	2
14	00018620	SCREW VTBEI M4 x 8 ISO 7380	4
15	00020403	SCREW VTCEI M4x10	2
16	00020501	SCREW TCEI M3x20 UNI5931 ZINC	2
17	26850617	RH BRAKE	1
18	36550605	SENSOR SUPPORT	1
19	36550612	STOP SLIDE	1
20	36550628	LH DISPLAY SUPPORT	1
21	76550630	MICRO SUPPORT	1

26550605 - RH REFERENCE STOP GROUP

POS.	CODE	PART NAME	QUANTITY
1	*	SUPPORTO PISTONE BATTUTA DX	1
2	00000018	PLAIN WASHER Ø4 UNI-6592 BRUN.	2
3	00000041	WASHER SCHNOR M6	6
4	00000042	WASHER SCHNOR Ø8	4
5	00003049	RUNNER BLOCK EGH 25C (A-Z0-H)	1
6	00003992	VISUALIZZATORE ELGO MS Z-16 20-25 CAVO 300mm	1
7	00015603	END-STROKE SENSOR MATSUSHITA ABV1212618	1
8	00018319	SCREW VTCEI M6x55 ZINC.	2
9	00018322	SCREW TCEI M8X20 UNI-5931 ZINC.	4
10	00018430	SCREW VTBCEI M6x12	4
11	00018511	NUT M3 UNI5587 ZINC	2
12	00018531	PLAIN WASHER Ø4 UNI-6592 ZINC.	4
13	00018532	PLAIN WASHER Ø3 UNI-6592 ZINC	2
14	00018620	SCREW VTBEI M4 x 8 ISO 7380	4
15	00020403	SCREW VTCEI M4x10	2
16	00020501	SCREW TCEI M3x20 UNI5931 ZINC	2
17	26850613	BRAKE	1
18	36550605	SENSOR SUPPORT	1
19	36550612	STOP SLIDE	1
20	36550629	RH DISPLAY SUPPORT	1
21	36550630	MICRO SUPPORT	1

26550602 / 26550603 - LH/RH PUSHING CYLINDER GROUP



26550602 - LH PUSHING CYLINDER GROUP

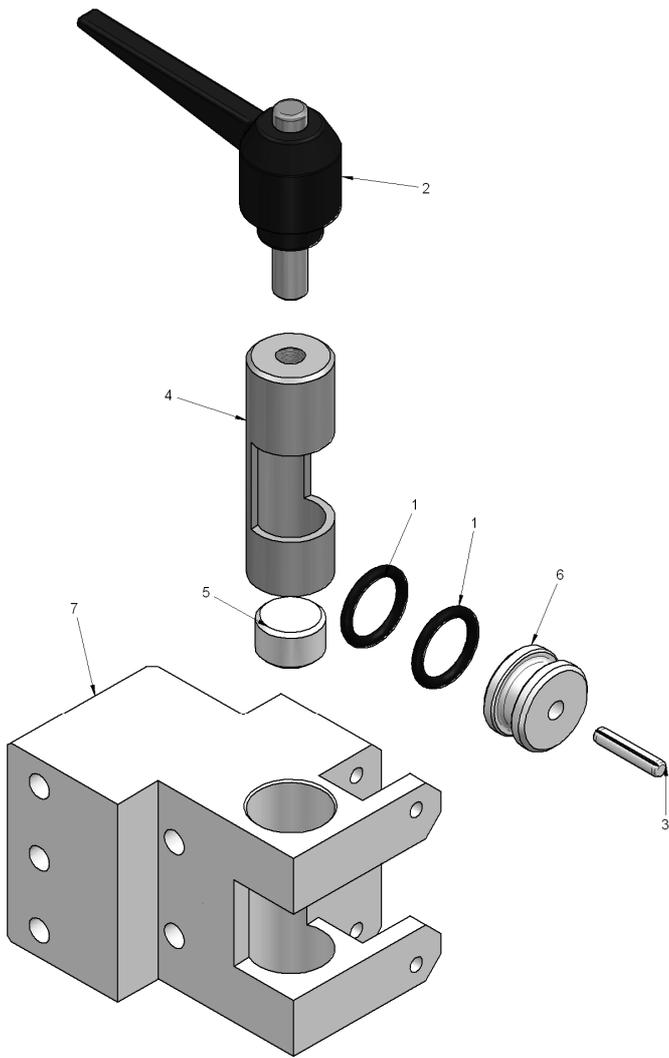
POS.	CODE	PART NAME	QUANTITY
1	*	LH PUSHING CYLINDER	1
2	00000019	PLAIN WASHER Ø6 UNI-6592 BRUN.	2
3	00000041	WASHER SCHNOR M6	6
4	00003049	RUNNER BLOCK EGH 25C (A-Z0-H)	1
5	00003932	SNAP LEVER 563-43 M6 x 16	2
6	00004210	PIN Ø6x20	2
7	00018319	SCREW VTCEI M6x55 ZINC.	2
8	00040604	SCREW TCEI M6X16 UNI-5931 BRUN.	4
9	26850613	BRAKE	1
10	36550611	MILLIMETRED RULE	1
11	36550612	STOP SLIDE	1
12	36550614	SENSOR SUPPORT	1

26550603 - RH PUSHING CYLINDER GROUP

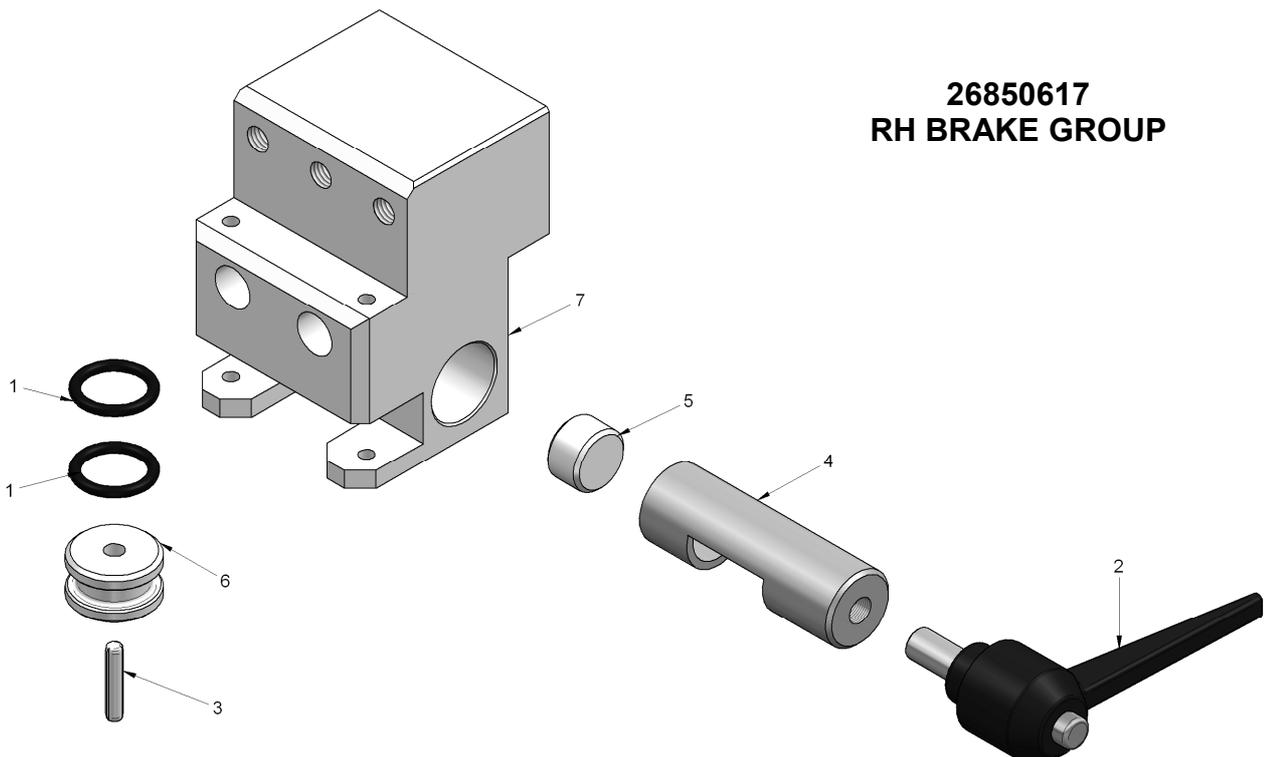
POS.	CODE	PART NAME	QUANTITY
1	*	RH PUSHING CYLINDER	1
2	00000019	PLAIN WASHER Ø6 UNI-6592 BRUN.	2
3	00000041	WASHER SCHNOR M6	6
4	00003049	RUNNER BLOCK EGH 25C (A-Z0-H)	1
5	00003932	SNAP LEVER 563-43 M6 x 16	2
6	00004210	PIN Ø6x20	2
7	00018319	SCREW VTCEI M6x55 ZINC.	2
8	00040604	SCREW TCEI M6X16 UNI-5931 BRUN.	4
9	26850617	RH BRAKE	1
10	36550611	MILLIMETRED RULE	1
11	36550612	STOP SLIDE	1
12	36550614	SENSOR SUPPORT	1

26850613 / 26850617 - LH/RH BRAKE GROUP

26850613
LH BRAKE GROUP



26850617
RH BRAKE GROUP



26850613 - LH BRAKE GROUP

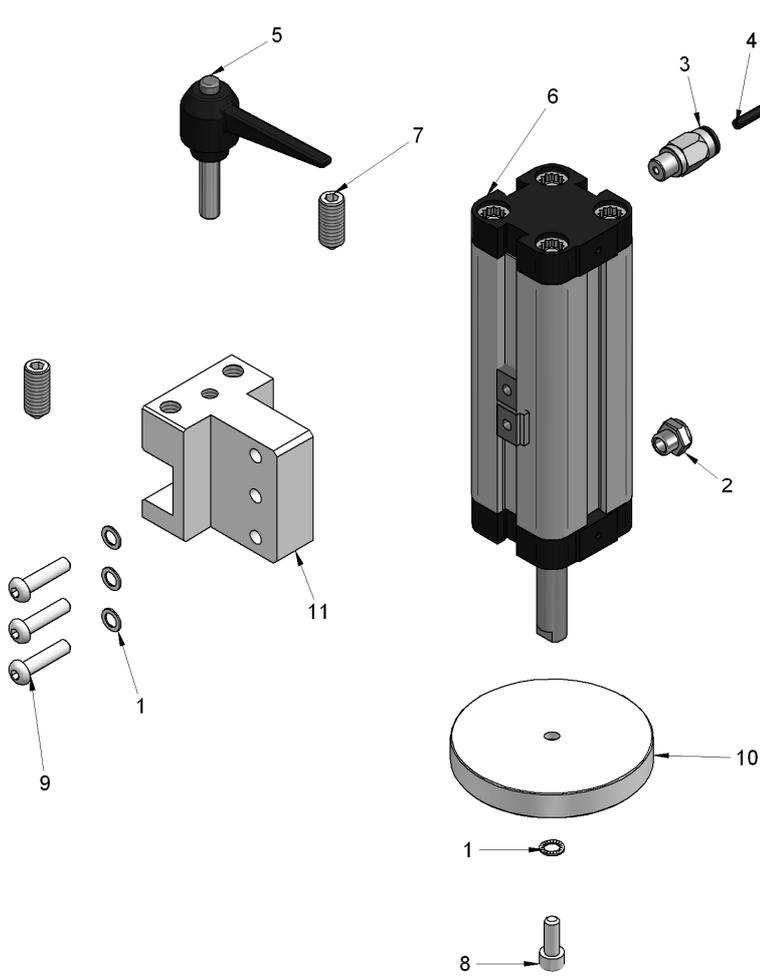
POS.	CODE	PART NAME	QUANTITY
1	00003530	OR ELASTIC RING 119	2
2	00003924	SNAP LEVER563-65 M8 L16	1
3	00004291	PIN Ø4x20 ISO8740 DIN1473	1
4	36850631	BRAKE CLAMP	1
5	36850632	BRAKE PLUG	1
6	36850634	CLUTCH PLUG	1
7	36850640	BRAKE BODY	1

26850617 - LH BRAKE GROUP

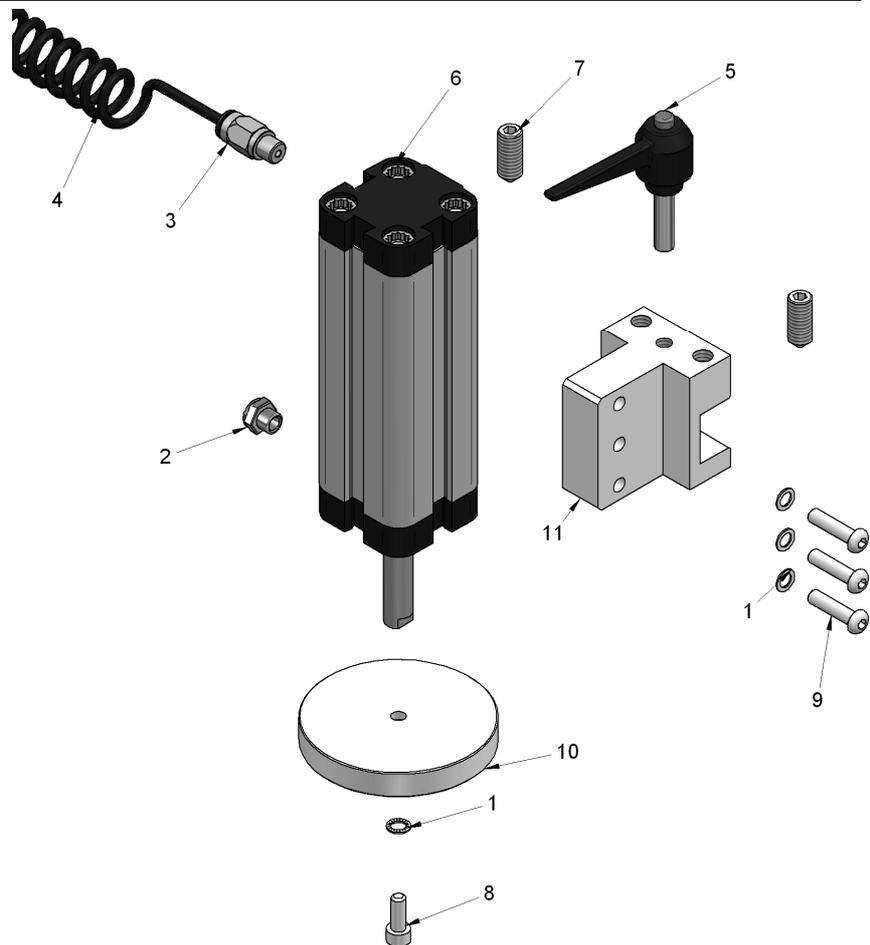
POS.	CODE	PART NAME	QUANTITY
1	00003530	OR ELASTIC RING 119	2
2	00003924	SNAP LEVER563-65 M8 L16	1
3	00004291	PIN Ø4x20 ISO8740 DIN1473	1
4	36850631	BRAKE CLAMP	1
5	36850632	BRAKE PLUG	1
6	36850634	CLUTCH PLUG	1
7	36850640	BRAKE BODY	1

26850619 / 26850620 - LH/RH PRESSER GROUP

26850619 LH PRESSER GROUP



26850620 RH PRESSER GROUP



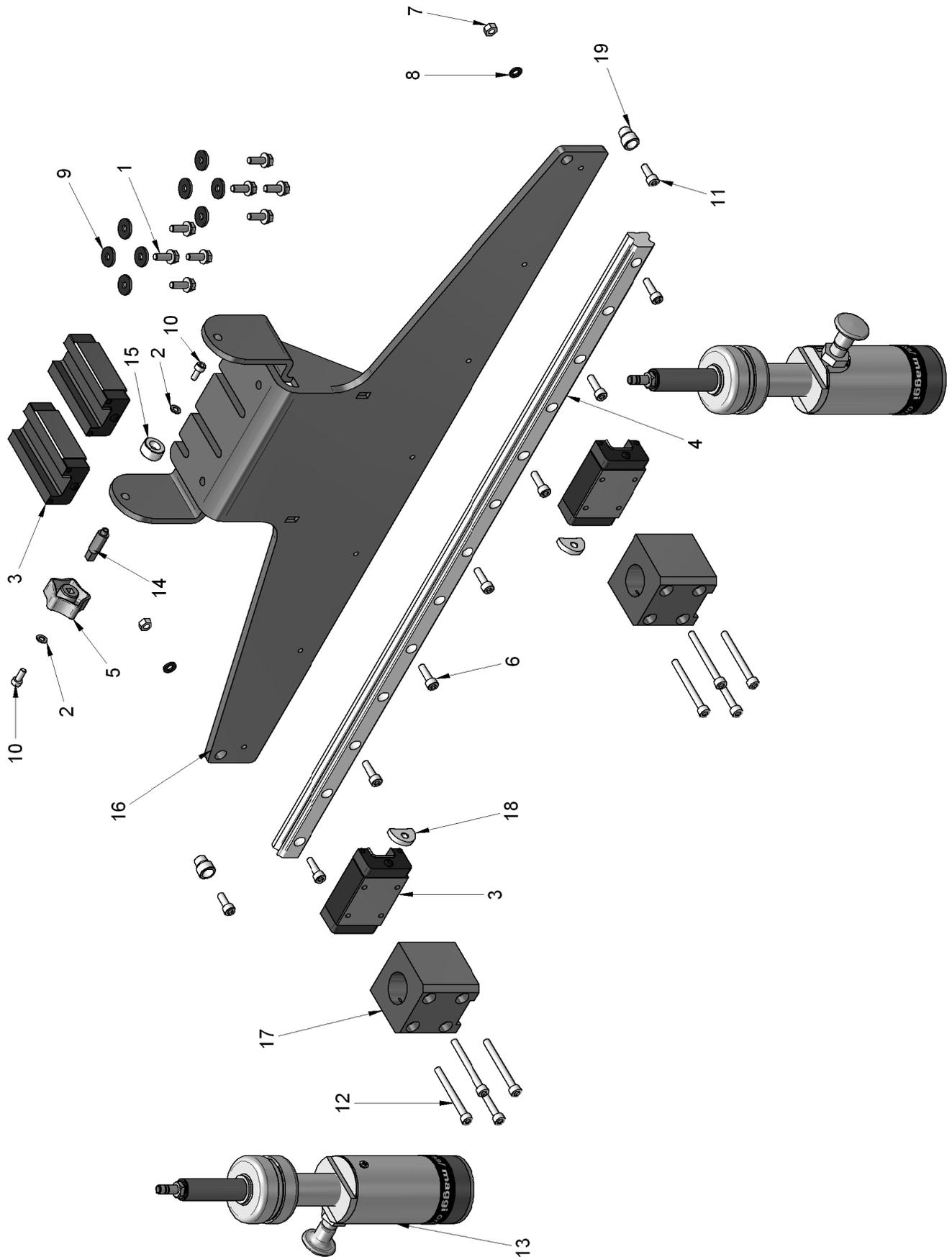
26850619 - LH PRESSER GROUP

POS.	CODE	PART NAME	QUANTITY
1	00000041	WASHER SCHNOR M6	4
2	00001109	SILENCER 1_8 COD.60518	1
3	00001155	FITTING ART.01-4-1_8	1
4	00004015	PIPE SR 4x2	1
5	00004024	SNAP LEVER KRP-63 M8 L30	1
6	00015213	KPN CYLINDER 32 x 60 CSP00315	1
7	00017998	SCREW VSTEI M10x25 PC	2
8	00018325	SCREW TCEI M6X16 UNI-5931 ZINC.	1
9	00018461	SCREW TBCEI M6X25 ISO-7380 ZINC.	3
10	36550620	CYLINDER FOOT	1
11	36850644	PRESSER BODY	1

26850620 - RH PRESSER GROUP

POS.	CODE	PART NAME	QUANTITY
1	00000041	WASHER SCHNOR M6	4
2	00001109	SILENCER 1_8 COD.60518	1
3	00001155	FITTING ART.01-4-1_8	1
4	00004015	PIPE SR 4x2 NERO	1
5	00004024	SNAP LEVER KRP-63 M8 L30	1
6	00015213	KPN CYLINDER 32 x 60 CSP00315	1
7	00017998	SCREW VSTEI M10x25 PC	2
8	00018325	SCREW TCEI M6X16 UNI-5931 ZINC.	1
9	00018461	SCREW TBCEI M6X25 ISO-7380 ZINC.	3
10	36550620	CYLINDER FOOT	1
11	36850644	PRESSER BODY	1

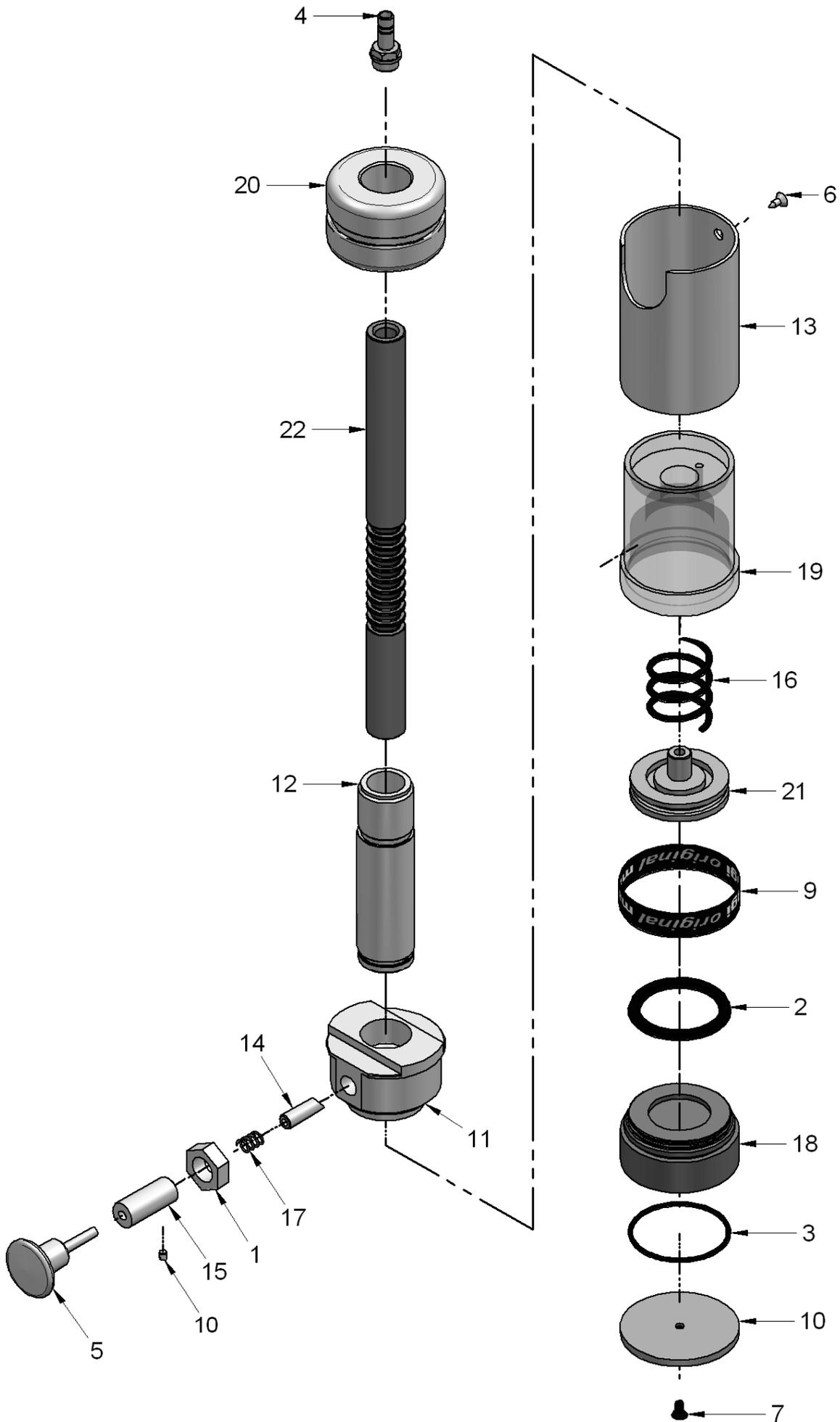
26550700 - PRESSING UNIT



26550700 - PRESSING UNIT

POS.	CODE	PART NAME	QUANTITY
1	00018447	SCREW VTE M6x16 DIN6921	8
2	00000017	PLAIN WASHER Ø5 UNI-6592 BRUN.	2
3	00003049	RUNNER BLOCK EGH 25C (A-Z0-H)	4
4	00003054	RAIL EGR 25H (63615-2) L=760	1
5	00003107	ARM-WHEEL ELESA VCRT40N6x6	1
6	00018303	SCREW VTCEI M6x20	7
7	00018500	NUT M6 UNI-5588 6S ZINC.	2
8	00018520	PLAIN WASHER Ø6 UNI-6592 ZINC.	2
9	00018526	PLAIN WASHER Ø6x18 UNI3351 ZINC.	8
10	00030503	SCREW VTCEI M5x10	2
11	00040604	SCREW TCEI M6X16 UNI-5931 BRUN.	2
12	00040612	SCREW VTCEI M6x60	8
13	26054501	PRESSER GROUP	2
14	36550703	LOCKING SCREW	1
15	36550704	LOCKING PLAIN WASHER	1
16	36550707	RAIL SUPPORT	1
17	36550709	PRESSER SLIDE	2
18	36550710	BRAKE DOWEL	2
19	36950305	STOP	2

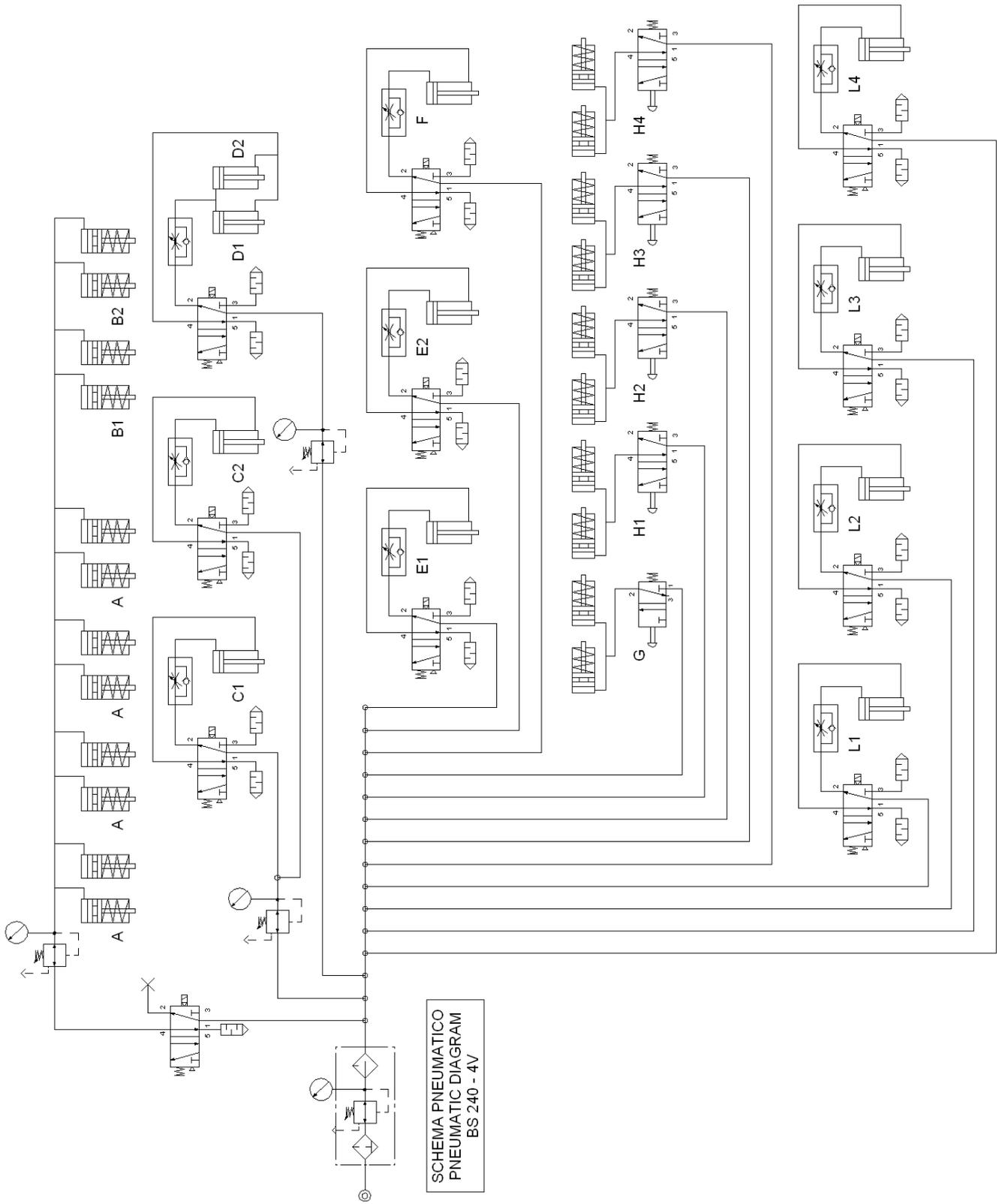
26054501 - PRESSER



26054501 - PRESSER

POS.	CODE	PART NAME	QUANTITY
1	00000118	LOW NUT M14 UNI-5589 6S BRUN.	1
2	00001120	PISTON GASKET	1
3	00001121	OR PNEUMAX COD R-1502.50.5	1
4	00001250	FITTING ART 06 8 1-4 CIL	1
5	00003120	BOTECO 119-32 M6	1
6	00005103	SCREW AUT. 3.9x9.5 zinc.6955	1
7	00018439	SCREW TSPEI M4x8 UNI-5933 ZINC.	1
8	00120404	SCREW STEI M4X4 P.P. UNI-5923	1
9	32700000	CYLINDER PLATE	1
10	49900095	NYLON PLATE	1
11	49901088	SHORT CYLINDER HEAD	1
12	49901089	SHORT TUBE HEAD	1
13	49970042	CYLINDER COVER	1
14	49970047	PISTON	1
15	49970048	THREADED CYLINDER	1
16	49970053	PISTON SPRING	1
17	49970146	LITTLE PISTON SPRING	1
18	49971051	LOWER HEAD	1
19	49972040	CYLINDER BODY	1
20	49972045	LOCKING NUT	1
21	49972052	PRESSER PISTON	1
22	49981043	PISTON ROD	1

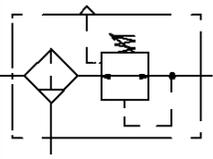
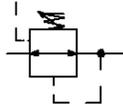
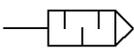
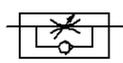
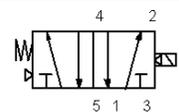
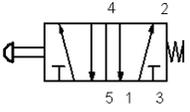
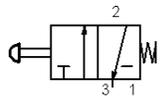
24. PNEUMATIC SYSTEM



SCHEMA PNEUMATICO
PNEUMATIC DIAGRAM
BS 240 - 4V

25. ELECTRIC SYSTEM

PLEASE CHECK THE DOCUMENT GIVEN TOGETHER WITH THIS MANUAL

SIMBOLO/SIMBOL	DESCRIZIONE/DESCRIPTION	TIPO / TYPE	MODELLO / MODEL	Q.TA' / Q.TY
	FILTRO RIDUTTORE FILTER PRESSURE REGULATOR			1
	MANOMETRO PRESSURE GAUGE			3
	REGOLATORE DI PRESSIONE PRESSURE REGULATOR			3
	SILENZIATORE SILENCER			21
	REGOLATORE DI FLUSSO UNIDIREZIONALE FLOW CONTROL VALVE UNIDIRECTIONAL			10
	ELETTROVALVOLA 5/2 5/2 WAY ELECTROVALVE			11
	CILINDRO A SEMPLICE EFFETTO RITORNO A MOLLA CYLINDER SINGLE ACTING VERSION WITH FRONT SPRING	A B H L	Ø50x14 Ø32x60 Ø63x25 Ø50x20	8 4 2 8
	CILINDRO A SEMPLICE EFFETTO STELO SEMPLICE CYLINDER SINGLE ACTING VERSION, SIMPLE PISTON ROD	C D E L	Ø32x50 Ø32x80 Ø80x75 Ø100x80	2 2 2 4
	MANIGLIA CON VALVOLA 5/2 HANDLE WITH 5/2 WAY VALVE			4
	MANIGLIA CON VALVOLA 3/2 HANDLE WITH 3/2 WAY VALVE			1

Pos.	description
A	presser on pressing unit
B1	pressers on LH fence
B2	pressers on RH fence
C1	LH back stop
C2	RH back stop
D1	pushing cylinder on LH frame
D2	pushing cylinder on RH frame
E1	LH horizontal head movement
E2	RH horizontal head movement
F	RH rack movement
G	brake for RH horizontal head unit
H1	brake for vertical head unit (n.1)
H2	brake for vertical head unit (n.2)
H3	brake for vertical head unit (n.3)
H4	brake for vertical head unit (n.4)
L1	vertical heads up-down movement (V1-1/V1-2)
L2	vertical heads up-down movement (V2-1/V2-2)
L3	vertical heads up-down movement (V3-1/V3-2)
L4	vertical heads up-down movement (V4-1/V4-2)

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MAGGI ENGINEERING