maggi engineering

WOODWORKING MACHINERY

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UK

MACHINE CODE 16354101

Always keep this manual together with the machine

BORING SYSTEM 35

USE AND MAINTENANCE MANUAL

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EC Declaration of Conformity

The manufacturer

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

Declares that the machinery

The machinery	*BORING MACHINE*
Model	***BORING SYSTEM 35***

Adesivo targa matricola

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

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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 costant 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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NOTES

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:

2. OPERATIVE NOTES

WOODWORKING MACHINES CAN BE DANGEROUS

1) A safe and correct use can be obtained by carefully and scrupulously following all the instructions contained into this manual.
2) The machine must be used only by qualified users and personnel of age. The responsible for safety must be sure that users of the machine have read and understood all the information contained into this manual.
3) The personnel for both ordinary and extraordinary maintenance must be well prepared in mechanics and electricity.
4) Keep off any parts in movement of the machine. Never touch the spindles and/or their respective parts in movement of the machine.
5) Never put one working piece on top of another one. Correctly adjust the machine and then drill only one working piece at time.

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.

3. MACHINE DESCRIPTION

Our boring machines have been manufactured to make holes on wood at a fixed distance of 32 mm (with maximum accuracy) between each centre.
The head has its fulcrum on the machine table and it can be tilted up to a 90-degree angle. The operator place the work piece on the working table, does some adjustments by using the pedal control, block the piece using the clamp units and then start drilling.
The machine consists of:

1. a steel frame structure
2. one head group equipped with its trasmission system
3. clamp group for vertical blocking of the work piece
4. pneumatic system for head positioning and head feed
5. reference stops to obtain the same drilling distance from vertical to horizontal position
6. leaflet for positioning the spindle height, a mechanical counter and the “Spiral System” device ti regulate the hole depth from 0 mm to 85 mm

3.1 USABLE TOOLS

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

Fig. A

Fig. B

4. ACCESSORIES

CODE	DESCRIPTION	
36000061	BUSHES FOR QUICK CHANGE DRILL	See Fig. A
26054810	ALUMINIUM FENCE WITH 4 STOPS (1500 + 1500 mm)	See Fig. B
26054812	ALUMINIUM FENCE RH WITH 2 STOPS (1500 mm)	Without Fig.
26054813	ALUMINIUM FENCE LH WITH 2 STOPS (1500 mm)	Without fig.
29970202	FENCE EXTENSION (1000 mm)	See Fig. C
26050801	EXTRA STOP FOR ALUMINIUM FENCE	See Fig. D
26001058	REFERENCE FENCE FOR QUICK AND EXACT SETUP OF STOPS ON THE LONG FENCE FOR LNE BORING (1088 mm)	See Fig. E
29900100	STOP REFERENCE PIN FOR LINE BORING	See Fig. F
26000069	SET OF REFERENCE FENCES FOR MOULDINGS AT 45° AND 90°	See Fig. G
26000071	REFERENCE STOP TO MATCH THE LONG PANEL DURING TRANSVERSE BORING	See Fig. H
26000061	REFERENCE FENCE FOR REAR FENCE PARALLELISM (500 mm)	See Fig. I
29971019	EXTRA CLAMPING PRESSER	See Fig. L

Fig. A

Fig. B

Fig. C

Fig. D

Fig. L

Fig. E

Fig. F

Fig. G

Fig. H

Fig. I

5. SAFETY PROTECTIONS DEVICES AND ADHESIVE WARNING

- The operator assigned to the machine must be well trained on its correct use, its safety protection devices and its accessories.
- The machine drilling devices must be correctly blocked and adjusted.
- The whole machine must undergo ordinary and extraordinary maintenance procedures, following the scheduled timing.
- Before you switch on the machine or start any work session, verify that the working table is free of the shaving left from the wood previously drilled.
- Before making any operation with the machine, verify that the entire working area is free of persons and of any obstacles which could be potentially source of danger.
- Verify that the connecting cable to the electrical power supply is safe, well stretched out and not rolled up.
- Do not enter the drilling zone before turning off the machine.
- Do not put any inflammable substances nearby the machine because of risk of explosion and/or fire due to possible sparks production.
- The operator must pay maximum attention using the pneumatic pedal to work with the machine.
- The operator must think carefully about possible consequences before approaching with his hands the most dangerous areas of the machine: the drilling zone and the working area of the clamp units.
- The machine must be turned off when not in use.

The main risk is due to moving drills. Our machine is equipped with following protection devices to reduce risks to the minimum:

A) Emergency push button

It is inserted in the control panel, in the front side of the machine. All the movements of the machine stop immediately when the emergency push button is pushed.

B) Series of stickers and plates

They describe in details all the safety instructions, the correct working procedures and identify the main parts of the machine. One plate shows the identification and serial number of the machine.

C) Safety clamp (patented)

They are on the surface of the working table or of the already positioned working piece, so that the operator can not put unintentionally his hands below.

D) Safety protection device

No-way-back coil preserve against accidental start. No-way-back coil preserve against accidental start

CEE, ISO, UNI WARNING SYMBOLS

Code 36054016

Code 36054032

Code 36054018

Code 36054019

WARNING SYMBOL: ALL THE OPERATIONS HIGHLIGHTED WITH THIS SYMBOL ARE DANGEROUS TO THE OPERATOR; PLEASE BE VERY CAREFUL IN DOING THESE OPERATIONS.

U.S.A. WARNING SYMBOLS

WARNING SYMBOL: ALL THE OPERATIONS HIGHLIGHTED WITH THIS SYMBOL ARE DANGEROUS TO THE OPERATOR; PLEASE BE VERY CAREFUL IN DOING THESE OPERATIONS.

Code 36050506

Code 36050507
Code 36050508

Code 36050509

Code 36050505

Code 36050005

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
- 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. OP-

Never leave the machine unattended when connected to the electrical power supply

7. TECHNICAL DATA

Technical feature	**BS 35**
N°. OF SPINDLES	35
INTERAXIS BETWEEN SPINDLES	32 mm
INTERAXIS BETWEEN FIRST AND LAST SPINDLES	1088 mm
MAX. BORING DEPTH	85 mm
MAX DIMENSION OF THE WORKING PIECE	1340 x 3000 mm
HEIGHT OF THE WORKING TABLE	875 mm
DIMENSION OF THE WORKING TABLE	1330 x 410 mm
N° OF CLAMPS	2
STANDARD PNEUMATIC PRESSURE	6 - 8 Bar
STANDARD AIR CONSUMPTION FOR WORKING CYCLE	15 L / Cycle
N° OF MOTORS	2
MOTOR POWER	2 (1,5) HP(KW)
MOTOR r.p.m.	2800 RPM
MACHINE DIMENSIONS (B x L x H)	990x1670x1280 mm
NET WEIGHT	450 Kg

8. INTENDED USE

8.1 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 at chapter 7.
- 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.

8.2 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 manufacturer cannot be considered liable for any damage caused to people, animals or property resulting from improper use of the machine.

9. TRANSPORT

The boring machine 35 is packed in a wooden box and/or in cardboard and nylon. It is possible to move it by means of:
- Forklift
- crane
- transpallet

Weight data are written in chapter 8. 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.

10. INSTALLATION

10.1 PLACING THE MACHINE

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.

10.2 LEVELLING

Adjust the levelling feet so that the machine is perfectly leaned on the floor, then align the working table of the machine by using a spirit level.
Before going on with levelling, tighten the alignment pins into the threaded holes of the bed frame, remove the protective oil film from planes and every not painted surface, by using petroleum or kerosene only.
Do not use any solvent as gasoline and diesel oil, because they can damage the paint, making it dull, or oxidize other parts.

11. WORKING AREA

For a correct use of the machine, the following zones must be kept clear.

12. ASSEMBLING AND CHECKING PROCEDURE

The Boring System boring machine is packed in a large wooden box or kit superimposition.We strongly suggest to apply a careful and correct procedure to transport the box to the area where the boring machine will be installed.

A

B

C

D

Remove the two fixing devices, which lock the machine to the pallet, placed on the lower part of the machine frame by unscrewing the screws (see figure on the left)
Now it is possible to separate completely the machine from

Level the machine loosening / tightening the T.E. screws placed on the lower part of the machine frame (see figure on the right).

Transport and put the machine in the place selected for working. Please be careful in doing this procedure and follow the instructions described in chapter 11-12

The packaging contains also the shoulders, clamping unit, back stop unit and a cardboard box with some other accessories inside, as shownin the figure below.

The box contains the following accessories:

- Boring System user and maintenance manual
- Wrenches Kit
- n°2 clamps
- Lh square unit
- Rh square unit

Assemble the back reference stop as depicted in the figure

Then assemble the clamp goup

Insert the clamp unit; assemble the clamp group as depicted in the figure on the left

Assemble the squares of the bench on the plane. After the assembling, mount the washer as depicted in the figure above

Long fence assembling steps

Insert the movable stop group in the fence as depicted in the figure on the left

All the assembling operations described above can be performed using the tools purchased together with the machine

The next step consists of machine connection to:

- Electric power supply (see chapter 14.1)
- Pneumatic power supply (see chapter 14.2)
- Dust suction system

(attention, we strongly suggest to carefully follow the procedures described on chapter 14)

Drilling set-up procedure *please carefully follow the instructions described in chapter 15*

13. 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.

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.

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 CONCENTRACTION BELOW THE VALUE ALLOWED BY THE LAW OF THE COUNTRY WHERE THE MACHINE IS INSTALLED.

14. MACHINE CONNECTION TO EXTERNAL POWER SUPPLY

After machine assembling and installation, connect it with:

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

14.1 CONNECTION TO ELECTRICAL POWER SUPPLY

To gain access to the machine electric system, open the main board door by loosening the screws on the front of it. 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 conducing 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 (or single-phase plug, depending on the panel).
The cable for ground connection is yellow-green.
The tolerance of admissible voltage is +/-10%
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.

Attention: we strongly recommend that the connection to the electrical power supply is done by technical qualified personnel only.

14.2 PNEUMATIC CONNECTION

Connect the Filter regulator unit (1) with the air line through a rubber or nylon hose with a minimum inside diameter of 8 mm.
If the pipe length exceeds 5/6 metres it is advisable to increase the inside diameter to 10 mm, you are also recommended to install a supply shut-off valve on the machine with manual control complete with air relief.
The Filter purifies the air from dust and humidity protecting the valves or seals in the pneumatic cylinders.

The boring machine 35 is equipped with a pressure booster (2).
This component gives a plus line pressure to the pneumatic cylinder (3) for head tipping.
The inlet pressure is set up in the factory at 5,5 Bar throught the pressure regulator (4).

ATTENTION: Do not act for any reason on the pressure regulator (4) to change the pressure value. Any change of this parameter is prohibited without the written approval of the manufacturer.

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14.3 MACHINE STARTING

The work station and control panel are on the machine electric panel. The operator places the pieces on the work table after adjusting the stops.

14.4 WORKING CYCLE

After setting the machine, follow the operations described below to start the working cycle:

1) Turn the main switch (2) to ON. The machine is ready to start the working cycle.
2) Operating the pneumatic pedal, the spindles turn and the head starts the working cycle, while the clamps lock the piece in place.
3) If the pedal is released, the head returns to the rest position and the spindles stop.
4) The clamps release the piece when the head returns to the starting position.

Should it be necessary to interrupt the work cycle for any reason, press the emergency button (1).

14.5 CONTROL PANEL

1) EMERGENCY ENGINE STOP BUTTON WITH RETAINER

Pressing this button all the electrical functions of the machine are cut off.
To resume the electrical functions, turn the mushroom button in the direction of the arrows.

2) MAIN SWITCH, ENGINE ENABLE BUTTON

Operating this ensures the presence of electrical energy; it enables the engine for switch on, hence for turning the spindles during the work cycle.

3) ELECTRIC LINE AVAILABILITY WARNING LIGHT ON / OFF

The light on means that current is available; the light off means that electrical current is not available.

4) HEAD POSITIONING AT 0—90°

Pneumatic selector for operating the spindle head rotation mechanism by 0—90°.

5) FEED SPEED ADJUSTMENT

Controls the drill boring feed speed

6) PRESSURE REGULATOR

This is for regulating the compressed air operating pressure keeping it within the above-mentioned limits *(see paragraph 14.2)*

15. CHECK UP AND ADJUSTMENTS

IT IS RECOMMENDED TO DISCONNECT THE ELECTRICAL AND PNEUMATIC POWER SUPPLY BEFORE TAKING ANY INTERVENTION ON THE MACHINE FOR MAINTENANCE OR FOR REPLACING DAMAGED OR WORN PARTS. FOLLOW ALL THE PROCEDURES DESCRIBED BELOW AND THE ADVICE WRITTEN IN CHAPTER 6 OF THIS MANUAL.

15.1 ELECTRICAL INSULATION PROCEDURE

Before starting with any maintenance operation on the machine please follow the following procedure:

1. verify that the machine is in the arranged position for the requested operation. Insulate electric and pneumatic system only after having blocked mechanically the machine in this position.
2. be sure that no any other power source is present, and that no residual power source is able to act.

It is extremely important that this procedure is performed by only one operator and he/she has to notify the machine state by putting on it a well visible tag.

15.2 PRELIMINARY CHECK UP

Check that the working area all around the machine is in order and without any residuals of machined material, as sawdust or wood pieces.

Check that all the safety protection devices are positioned correctly and ready to use.

15.3 DRILLING DEPTH AND SPINDLE HEAD ADJUSTMENT

To carry out boring operations, proceed as described below:

1) Insert the suitable drills in the required position on the spindle head

2) Turn the handle (1) to set the required height of the drills from the work table, with the head turned at 0°. The drill height is shown on the digital counter (2) in millimetres. Turn the handle so that the screw is stretched when the required height is reached. The choice of the tool depends on the thickness of the piece to be bored, the position of the hole and the hole diameter.

3) Proceed as follows to adjust the boring depth: once you have found on the depth selection screw (3) the scale referring to the total length of the drill being used, it is possible to set (with no need for calculation) the actual boring depth. Releasing the handle (4) and turning the depth selection screw to the required point, the pointer (5) which also acts as a magnifier, will show the chosen depth. Firmly tighten the handle (4) before starting boring operations.

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

HEAD PARALLELISM ADJUSTMENT

- Partially loosen the screws (A) and work alternately on the screws (B) and nuts (C)
- Set the drills parallel to the work table
- Firmly tighten the screws (A)

15.4 SPINDLE HEAD HORIZONTAL AND VERTICAL POSITIONING

POINT 1 “Caution danger” Carefully follow the whole procedure described below. To position the spindle head at 90° ***(POS. A)*** starting from 0° as shown in the figure, proceed as follows:

- Release the handles (1 and 2)
- Use the control lever (3), positioned on the front side of the machine, and move it to the lower position.
- Lock the handles (1 and 2) again.

POINT 2 To position the spindle head at 0° starting from 90° ***(POS. A)***, proceed as follows:

- Check that the control lever (3), on the front side of the machine, is also positioned at 90° (lower position)
- Release the handles (1 and 2)
- Use the control lever (3) and move it to the upper position to overturn the head unit
- Lock the handles (1 and 2) again.

SPINDLE HEAD POSITIONING AT AN INTERMEDIATE ANGLE OF 45°

- Please position the head unit at 90°.
- Release the handles (1 and 2) to be able to pull out the graduated fence (4)
- Release the handle (5) and position the stop (6) at the required degrees from 0° to 90° along the graduated fence and then lock again.
- Follow the procedure described at ***Paragraph 15.4 Point 2*** (head positioning at 0°) the unit will stop in the chosen position
- Then lock the handles (1 and 2) again.

15.5 USE OF THE REFERENCE STOP FOR STANDARD 0°-90° MACHINING

STEP 1 - The side squares (A) and back stops (B) are used to position the piece to be machined in the standard working cycle.
With the spindle head at 90° and the spindle holder unit clamped in place:

- Position and lock the side squares at an appropriate distance from the drills to be used
- Position the clamp cylinder (or cylinders) (C) in the area where the piece will be worked
- Place the piece to be bored against the side squares using them as guides to position the piece under the clamps and against the rack.
- Position the stoppers (B) above the work piece, lower the stopper reference block onto the piece and clamp the stopper itself with the corresponding handles.
- The piece is in the right position and it is now possible to start the working cycle pressing the pneumatic pedal to start drill feed with the engine switched on (make sure that the engine button is on). At the same time the clamps will lock the work piece into position.

STEP 2 - When the first step is over, release the pneumatic pedal to release the piece and take the bored piece out of the machine. Release the spindle head unit, operating the overturning lever to re-position the spindle head at 90°. Re-position the head and lock it in place, than you can start the second step:

- position the piece, that has to be joined to the one that has just been machined, against the side square under the clamp (or clamps) (C) and against the back stop block.
- Once you are sure the piece has been positioned correctly, press the pedal to lock the clamp, to turn and feed the drills.
- The piece will be released once the pedal is freed, ending the working cycle.

THE TWO PIECES THAT HAVE BEEN OBTAINED ARE NOW READY TO BE JOINED (0°-90°).

15.6 USE OF THE 1,5 + 1,5 MT EXTENSION FENCE *(OPTIONAL)*

The extension fence is used to make a series of larger holes than the machine can make or to bore large-sized pieces. Use of the extension generally implies complete or partial exclusion of the side squares and positioning the spindle head at 90°. For longitudinal use of the extension, we advise you to exclude the side squares completely, as it is possible to use mobile reference stoppers on the extension itself (the extension is provided with 4 mobile stoppers with positioning screws, stop screw and extension clamping device) for combined positioning of the work piece.

TRANSVERSAL POSITION OF EXTENSION FENCE *(OPTIONAL)*

To use the extension fence transversally you need to fasten it to the side square using the locking knobs provided.
Follow the procedure described below:

- Position the extension on the inner side of the side square, locking it in place with the help of the reference pin (1) on the extension itself.
- Clamp the locking knobs (2) on the side square.
- Once the extension fence has been positioned, it is possible to exclude the other side square if necessary.
- It is now possible to use the mobile stops to co-ordinate the relative positions of the sections to be bored on long pieces.
- Add a suitable support (i.e. a stand) for the fence and for the panel to be bored.

LONGITUDINAL POSITION OF THE EXTENSION FENCE *(OPTIONAL)*

To use the extension fence longitudinally you need to fasten it to the back stop profile using the handles provided.

Follow the procedure described below:

- Turn the side squares over to bring them out of the table, making sure they are under the work table.
- Place the extension fence over the back stop profile as illustrated in the figure below.
- Fasten the extension fence to the back stop profile clamping the handle (1) provided with locating pin.
- Finally line up the extension fence to the boring line clamping the other handle (2).
- It is now possible to use the mobile stops to co-ordinate the relative positions of the sections to be bored on long pieces.
- Add a suitable support (i.e. a stand) for the fence and for the panel to be bored.

15.7 USE OF THE REFERENCE PIN FOR SETS OF HOLES ON LARGE-SIZED PIECES *(OPTIONAL)*

The use of the extension fence for large-sized pieces can be complicated. Our machines are provided with a reference pin that can be used for the repetition of a set of holes on a large-sized piece, in which the axial distance between the first drill and the last is higher than those obtainable with the boring machine used. The reference pin is aligned with the axis of the drills and it fits into a slot under the machine table when the first set of holes has been bored. To go on boring, the reference pin can be used again by turning the knob to release the spring that allows the reference pin to come out. The reference pin must be inserted in one of the holes that have just been bored to allow repetition of the set of holes.

15.8 USE OF THE TRIANGLE FOR 45° FRAMES *(OPTIONAL)*

The 45° triangle is particularly useful for 45°-45° jointing, mainly used for quickly manufacturing frames. Fasten the triangle (1) on the table in the reference holes and clamp it in the centre hole using the lever (2). This way it is possible to rest the pieces cut at 45° to be bored and coupled with the wooden “dowel” peg. The machine spindle head must be set at 0°. When the position is correct, the clamp is over the piece to be worked; proceed as in a standard working cycle, pressing the pneumatic pedal to start machining and releasing it at the end of the work. Repeat the procedure on both sides of the triangle to obtain two mirrored frame pieces ready to be joined.

15.9 USE OF THE CENTRAL BAR FOR STRAIGHT 90° FRAMES *(OPTIONAL)*

The central bar is used to join two pieces with sides at a right angle (mainly used for quickly manufacturing straight frames).

- Fasten the central bar (3) in the special reference holes on the work table and clamp it with the lever (2).
- position the pieces to be worked along the central bar. It is now possible to start boring operations to join frames with wooden “dowel” pegs.

The position is correct when the spindle head is at 0° and the clamp is over the piece to be bored. Proceed as in a standard working cycle, pressing the pneumatic pedal to start machining and releasing it at the end of the work. Repeat the procedure on both sides of the triangle to obtain two mirrored frame pieces ready to be joined.

16. WORKING EXAMPLES

PANEL MATING EXAMPLES

Assembling parts

Mating parts (at 0°)

Mating parts (between 0° and 90°)

FRAME MATING EXAMPLE AT 0° AND AT 45°

SIMULTANEOUS MIRROR DRILLING EXAMPLES

Reference assembling

Simultaneous mirror drilling of two panels (drilling head at 0°)

Simultaneous drilling of two side panels (drilling head at 90°)

DRILLING EXAMPLES WITH REFERENCE FENCES

Transverse positioning of the fence, equipped with reference stops, to drill transverse holes on side panels for the insertion of support panels

Transverse positioning of two fences, equipped with reference stops, to drill simultaneously transverse holes on side panels for the insertion of support panels

Longitudinal positioning of the 1500mm fence, equipped with two reference stops, to drill line holes on large panels. The long fence can be used both on left and right side with high accuracy. The 1500+1500 mm long fence, equipped with four reference stops, is particularly suitable to drill line holes on very large panels: thanks to its dimension, it ensures a fast and complete positioning.

DRILLING EXAMPLES USING FRAME FENCE

Example of the use of the standard dimension fence to drill simultaneously two frames at 0° - 90°

Example of the use of the triangular fence to drill simultaneously two frames to be joined at 45° - 45°

EXAMPLES OF AUTOMATIC MATING OF VERTICALLY AND HORIZONTALLY DRILLED PANELS

PHASE 1

PHASE 2

PHASE 3

PHASE 4

DRILLING EXAMPLES FOR HINGE SEAT

It is possible to drill holes using 35mm O.D. tools max. *(if you want to use a 40mm O.D. tool you must follow carefully the procedure described below)*
ATTENTION !!! The 35mm O.D. tool has to be mounted only on the spindles corresponding to three right positions of the rack (see the three arrows on the right side of the figure below), besides the head group has to be positioned in the “0 0 0 0,0” vertical position, as depicted in the figure below.

It is possibile to drill holes larger than 40mm O.D. if you position the head from the rack at a distance of the tool O.D. + 10mm. At this distance you can use large tools in any spindle of the head.
ATTENTION !!! You must verify that the tool is above the rack.

17. MAINTENANCE

17.1 ORDINARY MAINTENANCE

AN ADEQUATE MAINTENANCE IS A CRUCIAL FACTOR FOR A LONGER LIFE OF THE MACHINE, AND TO OBTAIN OPTIMAL WORKING CONDITION OF THE MACHINE ITSELF. ALL THE MAINTENANCE OPERATIONS MUST BE DONE WITH THE MACHINE TURNED OFF. WEAR ALWAYS PROTECTIVE GLOVES AND FACE-SHIELD

WARNING - DANGER OF SLIDING!
During cleaning of working area, be careful to working residuals and liquids left over the floor all around the machine: they can be dangerous for sliding of the operator.

17.2 CLEANING OF THE MACHINE (DAILY)

The machine and working area must be kept clean from working scraps and anything that could hamper the working cycle or access to the machine itself. The machine must be cleaned every day. Make sure that no material not needed by the machine can gather on it preventing safe operation and causing danger to the operator during the normal working cycle .

17.3 CLEANING OF THE GUIDES (WEEKLY)

Sliding guides and bars must be kept clean from working residuals: they can obstacle correct machine movements and damage machine efficiency. Do not use detergents or lubricants.

ELECTRICAL CABLES CHECK
Check the condition of the electric cables. Make sure there are no signs of wear, scrapes, etc.

17.4 EXTRAORDINARY MAINTENANCE

MAINTENANCE

- Check electric system safety
- Check the clamping of the various mechanical components.
- Check the lubricant oil level in the filter unit and top up if necessary.
- Make sure the machine is lubricated regularly.
- Check air pressure value: the pneumatic power supply must give air at a pressure value of 6 bar
- Check sludge: sludge and air impurity deposit into the transparent cup of air treatment group

18. COMMON FAILURES: REASONS AND REMEDIES

Some failure causes can be eliminated directly by the operator, other by qualified personnel only.

ATTENTION:
BEFORE MAKING ANY INTERVENTION IT IS OBLIGATORY TO FOLLOW CAREFULLY THE INSULATION PROCEDURE

18.1 DRILLS DO NOT WORK

PROBABLE REASON	ACTION
A - the motor does not work B - the motor is out of service	- push the motor start push button - release the emergency push button and/or check fuse - check air pressure value (to turn on the pressure sensor) - replace the motor

18.2 THE MOTOR WORKS BUT THE DRILLS DOES NOT

PROBABLE REASON	ACTION
A - possible failure of: - gears and/ or keys - drive joint	- replace them or call technical service

18.3 THE HOLE IS NOT ACCURATE

PROBABLE REASON
A - unproper drill locking
B - drill wear
C - working piece unproperly blocked

ACTION
- check locking. Call Service if the locking is good
- replace or call Service
- check clamp units, their seals and working air pressure value

19. ANOMALIES DURING ORDINARY WORKING PHASES

19.1 BURN-TRACES DUE TO DRILLS
This problem might appear when the piece is positioned incorrectly or owing to drill wear or if the drills turn in the opposite direction.

19.2 DRILLED PIECES ARE NOT PARALLEL TO THE REFERENCE BAR
This might be due to incorrect parallelism of the drills in relation to the reference stop. Check the heads in relation to the stop and the parallelism of the line of drills of head 1 with head 2.

19.3 DIFFICOLTY IN TURNING THE HEAD
If the boring unit fails to reach or finds it difficult to reach other positions, check the hinge and rod of the overturning piston

19.4 THE WORKING PIECE IS NOT BLOCKED BY THE SAFETY CLAMP
If the clamps are not clamping properly, check the air pressure and connection pipes.
To solve these problems we suggest you contact Maggi Engineering Post-Sale Service, or your local dealer.

20. NOISE EMISSION

Noise emission according to correct working of machine and balancing and grinding of tools, is variable and depends on working material, drill diameter and depth drill. The operator permanence expected time is variable during 8 hours a day. Some other factors may determinate the exposure level; the surroundings and other noise sources, and other close machines.
We suggest to inform the operators about risks caused by a prolonged exposure to noise, providing them with suitable individual protection devices. The acoustic pressure level, collected in the operator place through class 1 integrative noise meter, is 76.1 dB(A).
This measure was done according to ISO3745 rules with usual working values of speed and air pressure, drilling a shaving wood PVC covered panel. The measure was executed at 1.5 m from ground, in front of the machine, in the operator position.
Moreover the following reference measures were collected with the same procedure:
Acoustic pressure level in Atm. dB(A): 78.3
Acoustic pressure power dB(A): 93.3

21. DUST EMISSION

The following results are obtained from the determination of dust emission in 1 hour of continuous work, drilling a fir PVC covered panel 20 mm thick. Dust emission turned out 13,9 mg/N cu.m at 1,5 m from ground in front of the machine in the operator position.

22. PUTTING THE MACHINE OUT OF SERVICE

When machine has to be put out of service, please carefully follow our instructions in order to safeguard the safety of people and of environment. Firstly execute the insulation procedure, then dismantle the drills and put them into a suitable packaging box. Dismantle electric, hydraulic and pneumatic components so that you can re-use them after a check or a revision. Empty out completely from oil the hydraulic power unit, avoiding scrupulously to disperse the oil in the environment. Dismantle metal components grouping them for materials. Call a specialized company to rescue and eliminate solid and liquid materials.

23. 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, the manufacturer 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.

24. 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

……..

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

NOTES

Send to:

maggi engineering

Sales and technical Assistance

Via delle Regioni n°299

50052 CERTALDO (Fi)

ITALY

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25. SPARE PARTS CATALOGUE

POS.	CODE	DENOMINATION GROUP	REFERENCE SHEET
1	26354000	FRAME UNIT	SHEET. 1
2	26354100	TABLE UNIT	SHEET. 2
3	26300200	RACK UNIT	SHEET. 3
4	26054300	LH SQUARE UNIT	SHEET. 4
5	26054301	RH SQUARE UNIT	SHEET. 4
6	26354401	SPINDLE HEAD UNIT	SHEET. 5
7	26300500	CLAMPING UNIT	SHEET. 6
8	26054502	CLAMP UNIT *(CLAMPING UNIT SUBGROUP)*	SHEET. 7
9	26354600	BACK STOP UNIT	SHEET. 8
10	26300700	HEAD UNIT	SHEET. 9
11	26054810	1,5 +1,5 Mt EXTENSION FENCE + N° 4 ROTARY STOPS UNIT	SHEET. 10
12	26050801	SWIVEL STOP UNIT *(EXTENSION FENCE SUBGROUP)*	SHEET. 11
#	#	PNEUMATIC SYSTEM	SHEET. 12-13
#	#	ELECTRIC SYSTEM	SHEET. 14-15

26354000 FRAME UNIT

SHEET 1

26354000 FRAME UNIT

POS.	CODE	PART NAME	QUANTITY
1	*	ACIMALL STICKER	1
2	00001013	FITTING 01-8-1/4	2
3	00001101	FITTING ART.01-8-1_8	4
4	00001102	FITTING 050800 "T"	2
5	00001104	FITTING R7 8 TITAN	3
6	00001105	FITTING 150818	2
7	00001106	PNMX NIPPLE 101-1/8-1/8 TITAN	2
8	00001108	FITTING T150814	3
9	00001109	PNMX SILENCER 6.05.18	3
10	00001116	FITTING REDUCER M/F 1041214	1
11	00001117	PNMX NIPPLE 1/2"1/4" 1021412	1
12	00001119	REDUCER NIPPLE M/M RC-1/4-1/8	1
13	00001124	BLACK SHEATH BTM25	1
14	00005123	SELF TAPPING SCREW TC Ø3,9x13 UNI8118	3
15	00015219	PRESSURE GAUGE M-40	2
16	00015220	PNEUMATIC PEDAL 228.52.10.2/1	1
17	00015221	PRESSURE SWITCH 1_8 CODE PMNX 10A	1
18	00015223	LEVER PANEL 228.32.5 PNEUMAX	1
19	00015224	PNMX FLOW CONTROL 6.01.14N	2
20	00015225	PNMX FLOW CONTROL 6.01.18/1N	1
21	00015229	PNMX FLOW CONTROL 6.01.18/NE	1
22	00015233	REDUCTION FILTER 1/4 20 08 T.P.(17106B.B.C.P)	1
23	00015239	TANK 2,5-BC	1
24	00015240	PRESSURE BOOSTER 1740.50.R WITH REGULATOR	1
25	00015241	PNMX UNIDIRECTIONAL VALVE 1/4" 6.07.14	1
26	00015651	FITTING T210814 "T"	1
27	00015652	FITTING ART 109 COD 10918	2
28	00018289	SCREW VTCEI M4X40 UNI-5931	2
29	00018290	SCREW VTCEI M4x12	4
30	00018300	SCREW VTCEI M4X10 UNI-5931	4
31	00018333	SCREW VTCEI M6X12	2
32	00018404	SCREW VTE M8x35 UNI-5739	3
33	00018441	SCREW VTBCEI M6x10	3
34	00018499	NUT M4 UNI-5588 6S	4
35	00018507	NUT M12 UNI-5588 6S	3
36	00018520	WASHER Ø6 UNI-6592	2
37	00018523	WASHER Ø13 UNI-6592	3
38	00018531	WASHER Ø4 UNI-6592	5
39	00018601	SCREW VTBCEI M10X20 ISO-7380	8
40	36050011	PRESS NUT	8
41	36050032	FOOT	3
42	36060008	SQUARE BRACKET	1
43	36154015	BS35 STICKER	1
44	36300100	FORBIDDEN STICKER 60x60	1
45	36354003	FRONT PLATE	1
46	36354015	PRESSURE BOOSTER SUPPORT	1
47	36354020	TANK	1
48	36354031	CONTROLS STICKER 35	1
49	36354082	RH SIDE PLATE	1
50	36354084	LH SIDE PLATE	1
51	36401092	ELECTRIC BOARD 2 MOTORS	1
52	40000030	3M PLATE 68x46 3690-906	1

26354100 TABLE UNIT

SHEET 2

26354100 TABLE UNIT

POS.	CODE	PART NAME	QUANTITY
1	00005045	PLAIN BEARING PAP 2530P10	2
2	00018364	SCREW VTCEI M10X16 UNI-5931	6
3	00018503	NUT M10 UNI-5588 6S	12
4	00018522	WASHER Ø10 UNI-6592	18
5	00150909	SCREW VSTEI M8X20 P.C. UNI-5927	6
6	36001016	BRONZE SHIMMING RING	2
7	36001127	ADJUSTMENT STUD	6
8	36222125	HOLLOW ROTATION PIN	2
9	36301018	WOODEN TABLE 35	1
10	36354017	TABLE 35	1

26300200 RACK UNIT

SHEET 3

23200200 RACK UNIT

POS.	CODE	PART NAME	QUANTITY
1	00015205	OVERTURNING CYLINDER 1561-80-230-01-1 PNEUMAX	1
2	00000169	RING NUT M30x1,5	1
3	00003305	SEEGER E12	4
4	00003904	PULLER GRIP ART.271	2
5	00003935	SNAP LEVER M6x25	2
6	00018307	SCREW VTCEI M8X16 UNI-5931	2
7	00018330	SCREW VTCEI M10X50 UNI-5931	4
8	00018450	SCREW VSTEI M6X10 P.C. UNI-5927	2
9	00018500	NUT M6 UNI-5588 6S	2
10	00018520	WASHER Ø6 UNI-6592	2
11	00018523	WASHER Ø13 UNI-6592	4
12	00018608	SCREW VTBEI M8x18	2
13	00100614	SCREW VSTEI M6X20 P.P. UNI-5923	2
14	00150802	SCREW VSTEI M8x8 PC UNI5927	2
15	00150812	SCREW VSTEI M8x30	2
16	33201009	HANDLE M12	4
17	36000002	CYLINDER SHAFT FORK	1
18	36000010	GRADUATED FENCE STOP	2
19	36000011	GRADUATED FENCE	2
20	36000012	DRIVING BUSH	2
21	36000013	EXTERNAL TIE ROD	2
22	36000014	INTERNAL TIE ROD	2
23	36000015	GRADUATED FENCE LOCKING BUSH	4
24	36000098	GRADUATED RULE	2
25	36000105	OVERTURNING CYLINDER LOWER PIN	1
26	36000106	OVERTURNING CYLINDER UPPER PIN	1
27	36000120	RUBBER FOR FENCE	2
28	36001010	45° GRADUATED FENCE STOP	2
29	36001108	OVERTURNING CYLINDER HINGE	2
30	36322005	RACK 35	1
31	49900051	WASHER	2

26054300 / 26054301 LH / RH SQUARE UNIT

26054300 / 26054301 LH / RH SQUARE UNIT

POS.	CODE	PART NAME	QUANTITY
1	00003304	SEEGER E17	1
2	00003455	INA BEARING AXK1730	1
3	00003456	INA RING AS 1730	2
4	00003460	INA BEARING AXK1024	2
5	00003461	INA RING AS 1024	4
6	00003911	WING NUT M8	3
7	00003940	BOTECO SLEEVE 775-38 M12	1
8	00003961	ELESA COUNTER DD51-AN-002. 0-D-AR	1
9	00003962	ELESA HANDWHEEL M60 MBT.60+I-B8	1
10	00004307	FLEXIBLE PIN Ø5X20	1
11	00005015	BRONZE BUSH 10X14 L14	1
12	00018291	SCREW VSTEI M4X12 P.P. UNI-5923	1
13	00018304	SCREW VTCEI M6X25 UNI-5931	4
14	00018318	SCREW VTCEI M6x30	1
15	00018325	SCREW TCEI M6X16 UNI-5931	1
16	00018399	SCREW VTE M6x20	1
17	00018424	SCREW VTSPEI M8X30 UNI-5933	2
18	00018460	SCREW VTSPEI M6X25 UNI-5933	1
19	00018461	SCREW VTBCEI M6X25 ISO-7380	1
20	00018499	NUT M4 UNI-5588 6S	1
21	00018500	NUT M6 UNI-5588 6S	1
22	00018520	WASHER Ø6 UNI-6592	1
23	00018521	WASHER Ø8 UNI-6592	6
24	00018522	WASHER Ø10 UNI-6592	1
25	00018552	NYLON CAP	2
26	00018590	WASHER M20 UNI 6592	1
27	00120400	SCREW VSTEI M4X5 P.C. UNI-5927	1
28	00130501	SCREW VSTEI M5X5 P.P. UNI-5923	1
29	00140605	SCREW VSTEI M6x12 PC	2
30	00171216	SCREW VSTEI M12X18 P.P. UNI-5923	1
31	36000037	SLEEVE SUPPORT	1
32	36000040	KNOB M6x20	1
33	36000123	MOVEMENT SCREW	1
34	36050308	**LH GUIDE PLATE**	1
35	36050310	LOW VSTEI	2
36	36050311	LONG VSTEI	3
37	36050316	SQUARE STOP	1
38	36054301	**LH SQUARE HOLDER BLOCK**	1
39	36054302	ROTATION PIN	1
40	36054303	WASHER	1
41	36054304	TIE ROD	1
42	36054305	BLOCKAGE	1
43	36054306	SQUARE HOLDER	1
44	36054307	SQUARE	1
45	36054308	SQUARE HOLDER SLIDE	1
46	36054311	DOWEL EXTENSION FENCE	1

26354401 SPINDLE HEAD UNIT

SHEET 5

26354401 SPINDLE HEAD UNIT

POS.	CODE	PART NAME	QUANTITY
1	00000168	SELF LOCKING RING NUT M 17 X 1	1
2	00000180	NUT M10 UNI-5589 6S	1
3	00000213	PARALLEL KEY 5x5x10 UNI-6604 A	1
4	00001105	FITTING ART.015-8-1_8	2
5	00003303	SEEGER E15	1
6	00003455	INA BEARING AXK1730	2
7	00003456	INA RING AS 1730	4
8	00003934	BOTECO HANDLE 522-104 M10	1
9	00003942	BOTECOPLAST HANDLE 216-80	1
10	00003960	COUNTER	1
11	00004380	FLEXIBLE PIN Ø4x26	1
12	00005047	BEARING PAP 4020P10	8
13	00015206	CYLINDER 1561-80-100-01-1 PNEUMAX	1
14	00018312	SCREW VTCEI M10x60 UNI-5931	1
15	00018315	SCREW VTCEI M16X100 UNI-5931	2
16	00018322	SCREW VTCEI M8X20 UNI-5931	10
17	00018332	SCREW VTCEI M10X40 UNI-5931	4
18	00018403	SCREW VTE M12X35 UNI-5739	4
19	00018409	SCREW VTCEI M16X50 UNI-5931	2
20	00018411	SCREW VTCEI M10X120 UNI-5931	1
21	00018419	SCREW VTSPEI M4x16	1
22	00018521	WASHER Ø8 UNI-6592	8
23	00018522	WASHER Ø10 UNI-6592	1
24	00018523	WASHER Ø13 UNI-6592	4
25	00018524	WASHER Ø17 UNI-6592	5
26	00018558	SCREW VTBCEI M5x10 ISO 7380	2
27	00130501	SCREW VSTEI M5X5 P.P. UNI-5923	1
28	36000042	CENTERED SPIRAL STOP	1
29	36000043	WASHER	2
30	36000044	PLEXIGLASS INDEX	1
31	36000045	LENS SUPPORT	1
32	36000046	SPIRAL	1
33	36000048	VERTICAL SLIDING FENCE	2
34	36000097	SPIRAL LABEL	1
35	36000111	CYLINDER SHANK EXTENSION	1
36	36050403	ORIZONTAL SLIDING FENCE	2
37	36300018	LIFTING SCREW	1
38	36322009	CYLINDER PLATE	1
39	36322010	MAIN PLATE	1
40	36322011	PLATE DRILLERS	1
41	36322012	HEAD SUPPORT PLATE	1
42	36322013	SUPPORT PLATE	2
43	36322015	RUBBER STRIKER	1
44	36322047	SPIRAL SUPPORT	1
45	36322109	RH HEAD SUPPORT	1
46	36322110	LH HEAD SUPPORT	1
47	36322124	SPIRAL STRIKER	1
48	41600004	SINTERED BUSHING	1

26300500 CLAMPING UNIT

26300500 CLAMPING UNIT

POS.	CODE	PART NAME	QUANTITY
1	00000051	SCHNOR WASHER Ø10	16
2	00001110	FITTING -L-ART-04-8	1
3	00004022	SNAP LEVER KRP-63 M8 L20	2
4	00005041	FISCHER-SCH-8-12-GR	2
5	00018429	SCREW VTSPEI M6x20	2
6	00018500	NUT M6 UNI-5588 6S	2
7	00018501	NUT M8 UNI-5588 6S	4
8	00018503	NUT M10 UNI-5588 6S	8
9	00018602	SCREW VTBCEI M10X30 ISO-7380	8
10	00018607	SCREW VTBEI M8x60	4
11	26054502	CLAMP UNIT	1
12	36000091	SPACER BLOCK	2
13	36000102	CLAMP SHOULDER	2
14	36300041	CROSSPIECE 35	2
15	49900051	WASHER	2

26054502 CLAMP UNIT *(CLAMPING UNIT SUBGROUP)*

26054502 CLAMP UNIT *(CLAMPING UNIT SUBGROUP)*

POS.	CODE	PART NAME	QUANTITY
1	00000118	NUT M14 UNI-5589 6S	2
2	00001102	PNMX FITTING R5_8_T	1
3	00001110	PNMX FITTING L-ART-04-8	1
4	00001120	PISTON SEAL	2
5	00001121	PNMX OR COD R-1502.50.5	2
6	00001128	BLACK SPIRAL	2
7	00001250	PNMX FITTING 06 8 1-4	2
8	00003120	BOTECO 119-32 M6	2
9	00005103	SCREW Ø 3.9x9.5 6955	2
10	00018439	SCREW VTSPEI M4x8 UNI-5933	2
11	00120404	SCREW VSTEI M4X4 UNI-5923	2
12	32700000	PISTON ADHESIVE	2
13	49900095	NYLON BUFFER	2
14	49901088	SLIDING HEAD	2
15	49901089	HEAD PIPE	2
16	49970042	PISTON CYLINDER COVER	2
17	49970047	WEDGE PISTON	2
18	49970048	THREADED CYLINDER	2
19	49970053	SPRING TO PISTON	2
20	49970146	SPRING	2
21	49971051	BOTTOM HEAD	2
22	49972040	PISTON CYLINDER	2
23	49972045	LOCKNUT	2
24	49972052	CLAMP PISTON	2
25	49981043	PISTON STEM	2

26354600 BACK STOP UNIT

SHEET 8

26354600 BACK STOP UNIT

POS.	CODE	PART NAME	QUANTITY
1	00003305	SEEGER E12	4
2	00003424	BEARING 6001 2RS1	4
3	00003520	OR RING 2031	2
4	00004044	SNAP LEVER M6 x 30	2
5	00005127	SELF TAPPING SCREW TC Ø2,2x6,5 ISO1481	4
6	00018307	SCREW VTCEI M8X16 UNI-5931	2
7	00018327	SCREW VTCEI M8X35 UNI-5931	4
8	00018431	SCREW VTBCEI M6X20 ISO-7380	4
9	00018521	WASHER Ø8 UNI-6592	2
10	00018526	WASHER Ø6x18 UNI3351	2
11	00018552	NYLON CAP	4
12	00150802	SCREW VSTEI M8x8 UNI5927	3
13	36000153	THICKNESS PLATE	2
14	36001078	ALIGMENT PIN	2
15	36002065	LH BACK STOP HOLDER	1
16	36002066	RH BACK STOP HOLDER	1
17	36050608	CAM	4
18	36050801	DOWEL	4
19	36054601	FIXED DRILL SLEEVE	2
20	36054602	FIXED DRILL PIN	2
21	36204812	LOCATING BLOCK	1
22	36350607	BACK REINFORCEMENT 35	1
23	36800228	DOWEL M6	2
24	46050613	RH BACK STOP MILLIMETRED RULE	1
25	46050614	LH BACK STOP MILLIMETRED RULE	1
26	46350603	BACK STOP PROFILE 35	1

26300700 HEAD UNIT

26300700 HEAD UNIT

POS.	CODE	PART NAME	QUANTITY
1	00000037	WASHER Ø12X18X1	35
2	00000041	SCHNOR WASHER M6	8
3	00000042	SCHNOR WASHER Ø8	4
4	00000211	PARALLEL KEY 4x4x12 UNI-6604 A	35
5	00000212	PARALLEL KEY 4x4x25 UNI-6604 A	2
6	00000222	PARALLEL KEY 5x5x50 UNI-6604 A	2
7	00003305	SEEGER E12	35
8	00003337	SEEGER I 28	70
9	00003424	BEARING 6001 2RS1	70
10	00003703	GREASING NIPPLE	2
11	00004103	BALL 1 / 8	35
12	00005025	SPRING Ø 4 L=9	35
13	00005097	SEAL Øi 20 Øe 25,5	35
14	00018302	SCREW VTCEI M6X10 UNI-5931	12
15	00018303	SCREW VTCEI M6X20 UNI-5931	8
16	00018305	SCREW VTCEI M6X90 UNI-5931	8
17	00018316	SCREW VTCEI M8X85 UNI-5931	4
18	00018500	NUT M6 UNI-5588	2
19	00018520	WASHER Ø6 UNI-6592	2
20	00100614	SCREW VTSTEI M6X20 P.P. UNI-5923	2
21	00130501	SCREW VTSTEI M5X5 P.P. UNI-5923	35
22	26000001	ENGINE EM63/71 V.230-400-50	2
23	36000055	CONNECTION PLATE	2
24	36000056	ENGINE JOINT	2
25	36000057	NYLON JOINT	2
26	36000059	DRIVING SPINDLE	2
27	36000062	GEAR Z21	35
28	36000063	BEARINGS SPACER	35
29	36001060	DRIVEN SPINDLE	33
30	36300054	HEAD 35	1
31	36300095	LABEL	1
32	36322058	HEAD COVER 35	1

26054810 1,5 +1,5 Mt EXTENSION FENCE + N° 4 ROTARY STOPS UNIT

SHEET 10

26054810 1,5 +1,5 Mt EXTENSION FENCE + N° 4 ROTARY STOPS UNIT

POS.	CODE	PART NAME	QUANTITY
1	00000150	SELF LOCKING NUT M10 UNI-7473	4
2	00003921	SNAP LEVER KRB 6356020 M8	4
3	00004020	SNAP LEVER ART 523-65 M8x40	4
4	00005127	SELF TAPPING SCREW TC Ø2,2x6,5 ISO1481	8
5	00018456	SCREW VTSTEI 6x35 PP	4
6	00018500	NUT M6 UNI-5588	4
7	00018521	WASHER Ø8 UNI-6592	8
8	00018522	WASHER Ø10 UNI-6592	4
9	00150808	SCREW VTSTEI M8X20	8
10	36000079	THREADED PIN	4
11	36001176	FENCE SECTION BAR 1,5 Mt	2
12	36003078	ALIGNMENT PIN	2
13	36050801	DOWEL	4
14	36050802	STOP HOLDER	4
15	36051803	ROTARY STOP	4
16	36054612	LOCATING BLOCK	2
17	36054805	RH MILLIMETRED RULE 0-1500	1
18	36054806	LH MILLIMETRED RULE 0-1500	1
19	36054807	LH MILLIMETRED RULE 70-1500	1
20	36054808	RH MILLIMETRED RULE 70-1500	1

26050801 ROTARY STOP UNIT

SHEET 11

PNEUMATIC SYSTEM

SHEET 12

SIMBOLO/SIMBOL	DESCRIZIONE/DESCRIPTION
	FILTRO RIDUTTORE + LUBRIFICATORE FILTER PRESSURE REGULATOR + LUBRICATOR *G1/4 20U 0-8 BAR*
	MANOMETRO PRESSURE GAUGE *G1/8 Ø40*
	PRESSOSTATO 250V PRESSURE SWITCH *PME 10A G1/8 T4 48V*
	PEDALE CON PROTEZIONE MOLLA PEDAL PROTECTION SPRING *G1/8*
	SILENZIATORE *SILENCER* *G1/8*
	REGOLATORE DI FLUSSO UNIDIREZIONALE FLOW CONTROL VALVE UNIDIRECTIONAL *G1/8*
	CILINDRO A DOPPIO EFFETTO STELO SEMPLICE CYLINDER DOUBLE ACTING VERSION, SIMPLE PISTON ROD *G1/8*
	CILINDRO A SEMPLICE EFFETTO RITORNO A MOLLA CYLINDER SINGLE ACTING VERSION WITH FRONT SPRING *G1/4*
	VALVOLA AD AZIONAMENTO MANUALE *3 VIE NORMALMENTE CHIUSA* MANUAL VALVE *3 WAYS NORM. CLOSED* *G1/8*
	CILINDRO A SEMPLICE EFFETTO STELO SEMPLICE CYLINDER SINGLE ACTING VERSION, SIMPLE PISTON ROD *G1/8*
	REGOLATORE DI FLUSSO BIDIREZIONALE FLOW CONTROL VALVE BIDIRECTIONAL *G1/8*

SIMBOLO/SIMBOL	DESCRIZIONE/DESCRIPTION
	MOLTIPLICATORE DI PRESSIONE PRESSURE BOOSTER *G1/8*
	RIDUTTORE DI PRESSIONE PRESSURE REGULATOR *G1/8*
	VALVOLA UNIDIREZIONALE SENZA MOLLA UNIDIRECTIONAL VALVE WITHOUT SPRING *G1/8*
	SERBATOIO TANK *G1/2*

PNEUMATIC SYSTEM

SHEET 13

POS.	CODE	PART NAME	QUANTITY
1	00015220	PNEUMATIC PEDAL 228.52.10.2/1	1
2	00001101	FITTING ART.01-8-1_8	8
3	00001109	PNMX SILENCER 6.05.18	5
4	00015651	FITTING T210814 "T"	1
5	00015233	REDUCTION FILTER 1/4 20 08 T.P.(17106B.B.C.P)	1
6	00015221	PRESSURE SWITCH 1_8 CODE PMNX 10A	1
7	00015652	FITTING ART 109 COD 10918	2
8	00015224	PNMX FLOW CONTROL 6.01.14N	2
9	00001102	FITTING 050800 "T"	3
10	00015229	PNMX FLOW CONTROL 6.01.18/NE	1
11	00001105	FITTING 150818	4
12	00015206	CYLINDER 1561-80-100-01-1 PNMX	1
13	00015205	OVERTURNING CYLINDER 1561-80-230-01-1 PNMX	1
14	00001108	FITTING T150814	3
15	00015223	LEVER PANEL 228.32.5 PNEUMAX	1
16	00015225	PNMX FLOW CONTROL 6.01.18/1N	1
17	00001104	FITTING R7 8 TITAN	3
18	00001250	EXTENSION ART. 07-8	2
19	00015219	PRESSURE GAUGE M-40	2
20	00015241	PNMX UNIDIRECTIONAL VALVE 1/4" 6.07.14	1
21	00015240	PRESSURE BOOSTER 1740.50.R WITH REGULATOR	1
22	00015239	TANK 2,5-BC	1
23	00001117	PNMX NIPPLE 1/2"1/4" 1021412	1
24	00001116	FITTING REDUCER M/F 1041214	1
25	00001013	FITTING 01-8-1/4	2
26	00001110	FITTING 040800 "L"	2
27	00001119	REDUCER NIPPLE M/M RC-1/4-1/8	1
28	00001106	PNMX NIPPLE 101-1/8-1/8 TITAN	1

ELECTRIC SYSTEM

ELECTRIC SYSTEM

SHEET 15

POS.	SYMBOL	CODE	PART NAME	QUANTITY
1	-	00005900	ELECTRICAL BOX GEWISS IP56 200X255X130	1
2	-	00006900	ELECTRICAL BOX KEY GEWISS (46522)	1
3	S1	00005070	EMERGENCY PUSH BUTTON	1
4	I6	00005091	COMPLETE MAIN SWITCH	1
5	H1	00005075	LAMP HOLDER	1
		00005076	LAMP 24V AC 2W	1
6	-	#	CABLE GLAND PG 13,5	3
7	T1	00005034	TRANSF. VA30 0-230-400-415-440 0-24	1
8	F1-F2-F3	00005077	TRIPOLAR FUSE HOLDER 10X38 32A	1
		00005078	FUSE 10X38 20A	3
9	K1	00005029	MINI CONTACTOR 24V 50-60HZ	1
10	F4-F5-F6	00005079	FUSE HOLDER 5X20	3
		00005074	FUSE 5X20 2A	3

26. SPARE PARTS REQUEST

ATTENTION! FILL IN DETAILS THIS FORM

Customer

……..

Address

……..

……..

Date …….

Telephone number

……..

Telefax

……..

MACHINE TYPE	SERIAL NUMBER	DELIVERY DATE	
GROUP CODE	**CODE**	**PART NAME**	**QUANTITY**

NOTE

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N.B.: Please attach a copy of each table where the requested part is.

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Associato ACIMALL Member Company

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RINA SA 8000:2001 Certified Social Accountability System

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MAGGI ENGINEERING