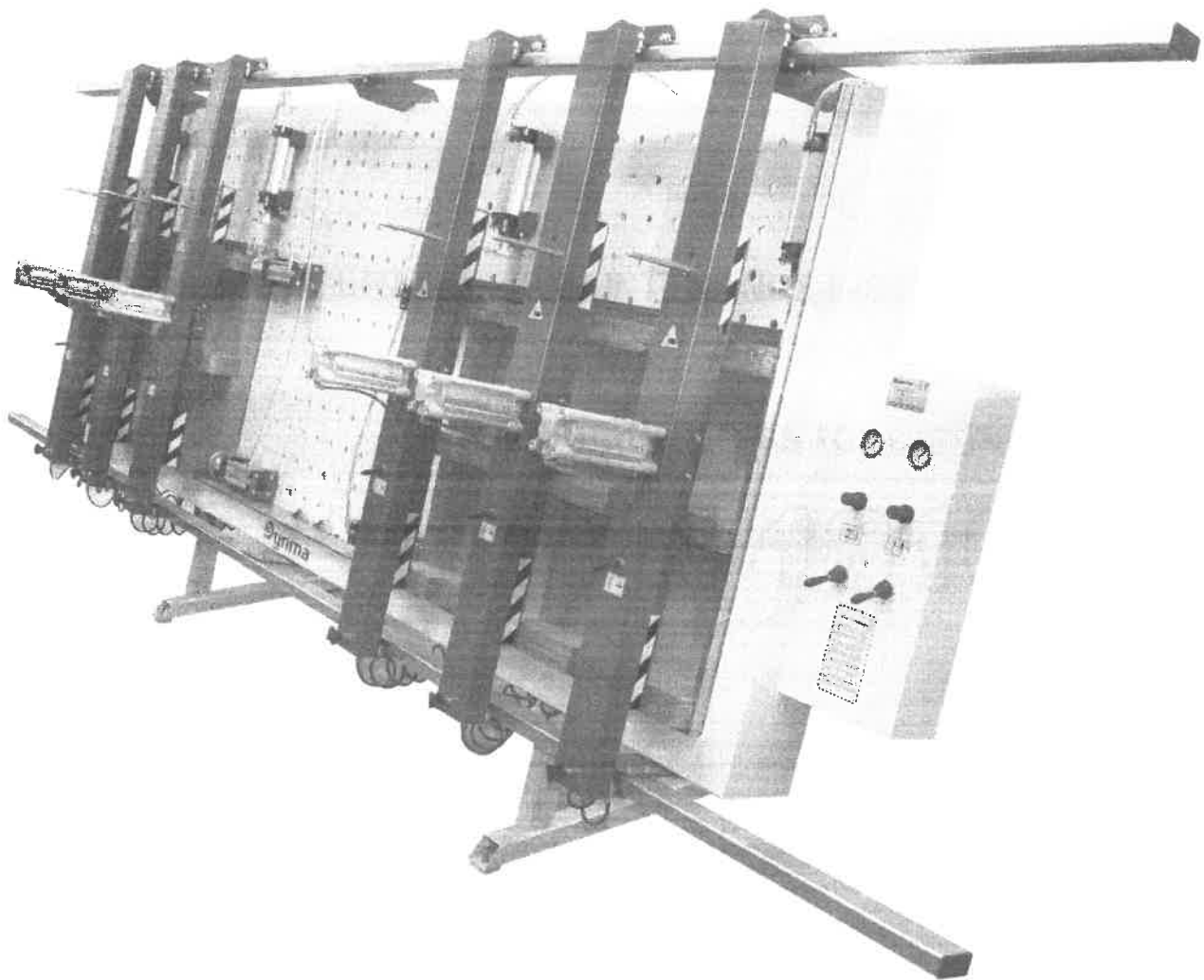


INSTALLATION, OPERATION & MAINTENANCE INSTRUCTION MANUAL

Pneumatic press for cardboard pallets

BPN-1810-DM



Dynma®

DESARROLLO INDUSTRIAL DE MAQUINARIA BENICARLÓ S.L.

Published by:

Desarrollo Industrial de Maquinaria Benicarló S.L.
TECHNICAL DOCUMENTATION DEPARTMENT

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A. PRELIMINARY INFORMATION

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A.1. CONTENTS AND WHO THE MANUAL IS AIMED AT

The instructions manual describes all the parts of the machine and defines the purpose for which it was manufactured. It also contains essential information on its correct operation, therefore allowing operators to work safely. It should be read carefully before proceeding with the installation, starting-up and use of the machine.

The manual is aimed at:

- The head of the company.
- The operators in charge of transport and installation.
- The operator in charge of using the machine.
- The personnel in charge of maintenance.

The descriptions and illustrations contained in this manual are not legally binding. Without detriment to the essential characteristics of the type of machine described, dynma reserves the right to, at any moment, make the technical modifications it deems appropriate in order to improve the performance of the machine, or as a result of industrial or commercial requirements, without it being obliged to update the present publication at the same time.

A.2. MANUFACTURER DETAILS

NAME: Desarrollo Industrial de Maquinaria Benicarló S.L.
ADDRESS: Polígono ind. Mercado de Abastos, nave 10
TOWN: Benicarló (Castellón)
POSTCODE: 12580
COUNTRY: Spain
TEL/FAX: (+34) 964 470 156

A.3. IDENTIFICATION OF THE MACHINE

The machine is identified by way of a plate which is riveted to the rear of the control frame. This contains the basic data for installation and identification.

The manufacturer's technical assistance department can offer customers information and answer questions of pneumatic, mechanical or electronic nature. Please indicate the model and serial number of the machine when asking for information.

			
Modelo:		Potencia (kw)	
Nº serie:		Voltaje (v/hz)	
Año:		Presion (bar)	
Desarrollo Industrial de Maquinaria Benicarló S.L. Benicarló (Castellón) - España Tfn: +34 964 470 156			

A.4. SYMBOLS USED

The symbols used in this manual and incorporated as an adhesive on the machine warn the operator of the potential dangers in carrying out some operations with the machine. Their meanings are as follows:



Warning. Follow the directions that accompany the symbol to avoid risks.



Advice. Safety warnings and advice have been identified with this symbol to keep the machine in good working condition.



Hazards due to suspended loads. During machinery loading and unloading processes, no one should remain under the suspended load.



Access to the press area is forbidden. Do not enter any part of the body within the press area while clamping elements are in operation.



Risk of crushing. Moving parts can cause entrapment of limbs when trying to manipulate them without following the instructions in the manual.



Risk of entrapment. Transmission mechanisms can cause entrapment of limbs when trying to manipulate them without following the instructions in the manual.

A.5. MANUFACTURER'S LIABILITY AND WARRANTY

Bearing in mind the advice offered in this manual, the manufacturer DESARROLLO INDUSTRIAL DE MAQUINARIA BENICARLO S.L. is not liable for damages or personal injury if:

- The machine is used in breach of national safety regulations and accident prevention rules.
- The building and or structures of the building on which the machine should operate are in bad condition.
- Defects in the energy supply.
- Lack of observation or careless observation of the advice offered in this manual.
- Unauthorized modifications to the machine.
- Use of the machine by people who have not been trained to do so or are not capable of doing so.

The manufacturer guarantees the proper functioning of the machine:

- **During a period of 24 months from the date of the sale of the machine for the metallic structure.**
- **During a period of 12 months from the date of the sale of the machine for the rest of components.**

The guarantee is limited to the replacement of material caused by manufacturing defects, verified by our technicians, as long as the machine operates under normal conditions and has not been altered in any way after delivery.

To avail of the guarantee, the customer must:

- Install the machine and start it up correctly.
- Always work within the limits of machine use.
- Use personnel who are trained for the activity.
- Use only original manufacturer spare parts.



***Only the use and configuration required for the machine are authorized.
Do not use the equipment in a manner contrary to that provided in the instructions.
The instructions in this manual do not replace but are a complement to the obligations
relating to the existing legislation on occupational safety and accident prevention.***

B. SAFETY STANDARDS

B.1. GENERAL SAFETY WARNINGS

The operator must be conscious of the risks involved when handling any type of machinery, industrial tools, therefore it is recommended that they read this instruction manual carefully, paying particular attention to the pictures and contents therein, before the start up or use of the machine.



DURING THE USE OF THE MACHINE

- *The operator should not be someone who operates the machine occasionally, but should receive adequate preparation for using the machine before working with it.*
- *Do not enter any body part into the press area while the machine is in use.*
- *The machine controls should be used by one person, never by two or more people at once.*
- *The work area around the press must be clean and free, in order to quickly access the control panel.*
- *Before putting the machine in operation, verify that no foreign bodies or any doors are inside.*
- *Turn on the machine, exactly as stated in the instructions manual.*
- *Use the machine only with material which is for use on the machine.*
- *Always use the proper clothing and footwear established by the accident prevention regulations in force.*
- *Notify authorized maintenance personnel in the case of any irregularities when operating the machine.*

DURING MACHINE MAINTENANCE

- *Unauthorised persons are forbidden from carrying out repair, maintenance or any other type of operation involving the machine.*
- *Before carrying out any maintenance operations, put the machine out of service by unplugged the air connection.*
- *Regularly clean the machine to remove remains of glue and dust. Never use inflammable liquids or solvents to clean the pieces; use only officially approved commercial solvents which are not inflammable or toxic.*
- *In the event of fire, use a powder extinguisher.*

C. DESCRIPTION OF THE MACHINE

C.1. PURPOSE OF THE MACHINE

The machine model "BPN" is a pneumatic press, designed to perform the assembly and clamping of wooden strips that make frames or rectangular type doors, while squaring the assembly, with a clamping system in two perpendicular directions (X and Y) and optional front clamping device (Z)

C.2. INTENDED CONDITIONS OF USE

TYPE OF PIECE

The machine does not correct errors in cutting or sizing of the panels that make up the drawer, so it is recommended that your process meets the following requirements:

- The surfaces of the piece in contact with the pressing elements should be totally flat in order to achieve a proper distribution of pressure and prevent damage to the clamping mechanisms.
- The length of the approved strips that make up the frame should not vary by more than 0.5mm.
- The drawer depth shall not exceed 150mm.
- The maximum and minimum dimensions of the drawer admitted by the press are specified in the technical specifications section.
- The systems used for binding together the strips that compose the drawer are well aligned and not too tightly adjusted.
- In case of doors with a central raised area, adjusting it with the groove of the strips will not be excessive, recommending a clearance with respect to the groove bottom of not less than 1mm.
- The machine has been designed for individual drawer pressing. Pressing multiple drawers at once can lead to deficiencies in closing them, or erroneous manoeuvres of the machine.

PNEUMATIC INSTALLATION

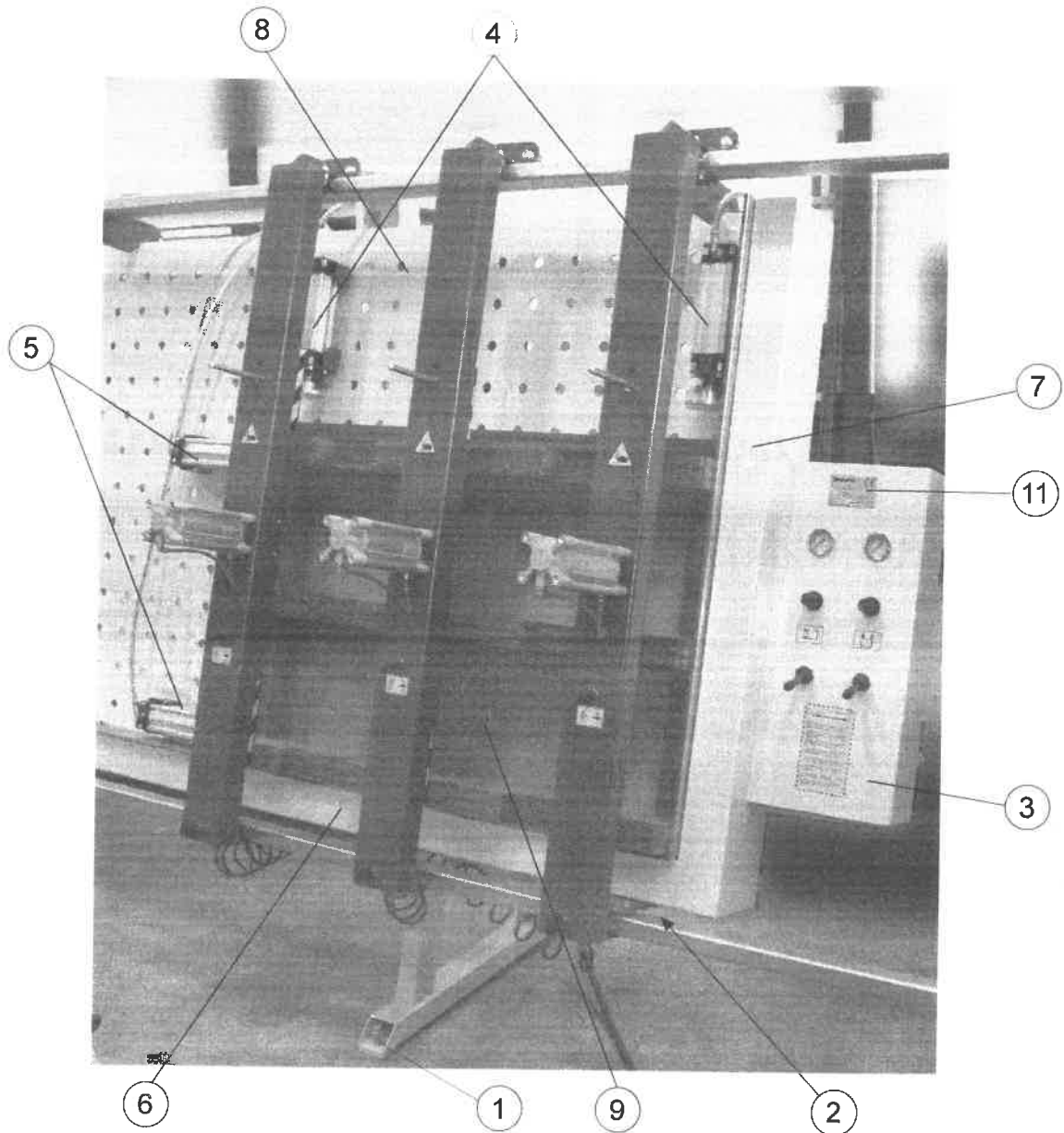
- The pneumatic system must provide filtered air at a pressure of between 6 and 8 bar.

ENVIRONMENTAL CONDITIONS

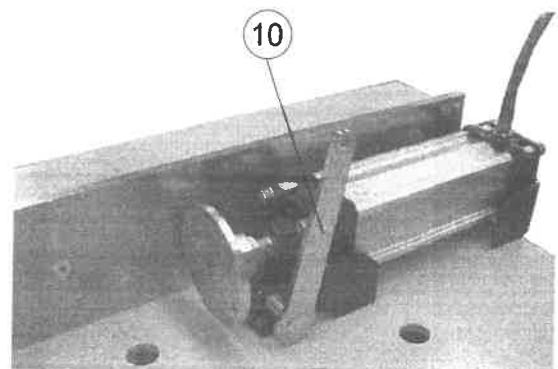
- The temperature of the place where the machine is to be installed will be between 0° and 40°C.
- The machine equipment has been carefully designed to work seamlessly with a humidity of between 20% and 95% (without condensation).

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C.3. GENERAL DESCRIPTION

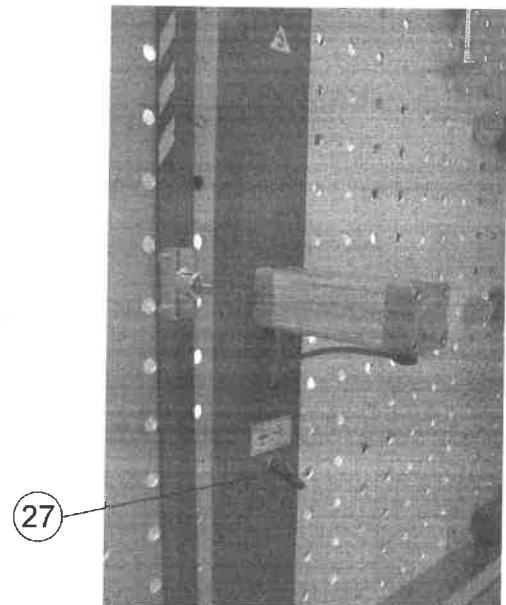
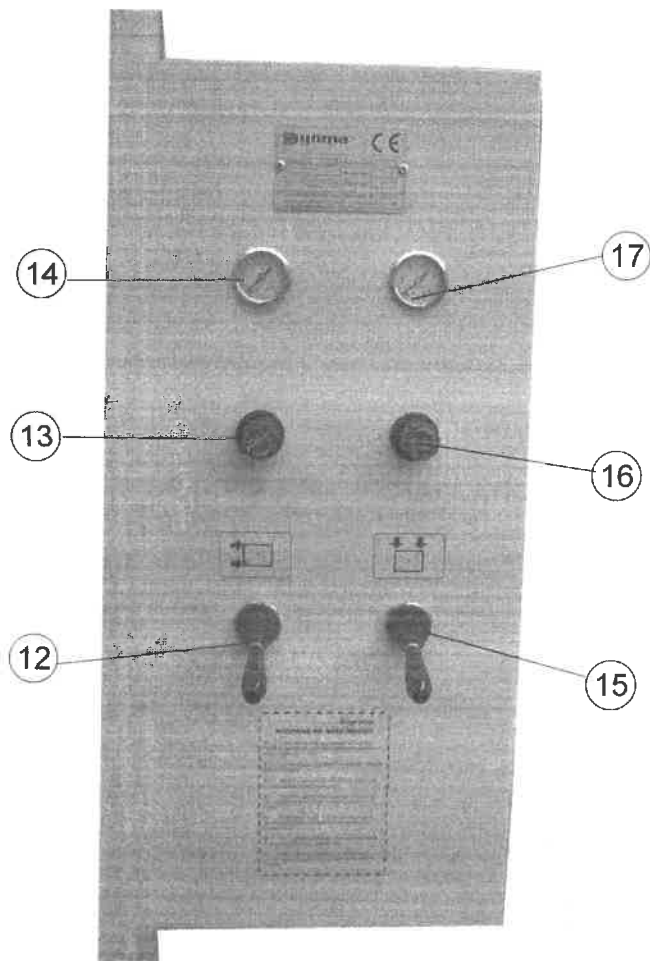


- 1) Levelling screw
- 2) Pneumatic connection
- 3) Control panel
- 4) Vertical cylinder
- 5) Lateral cylinder
- 6) Lower support bracket
- 7) Side support bracket
- 8) Perforated support surface
- 9) CardBoard pallet
- 10) Key for locking
- 11) Nameplate

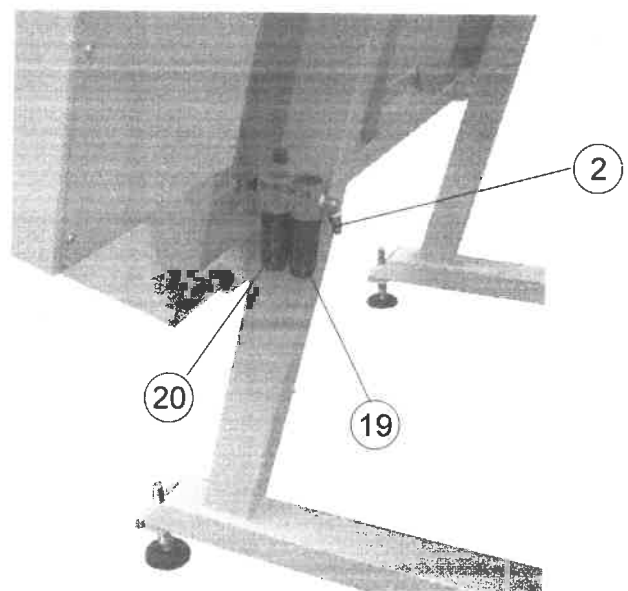


C.4. CONTROL PANEL

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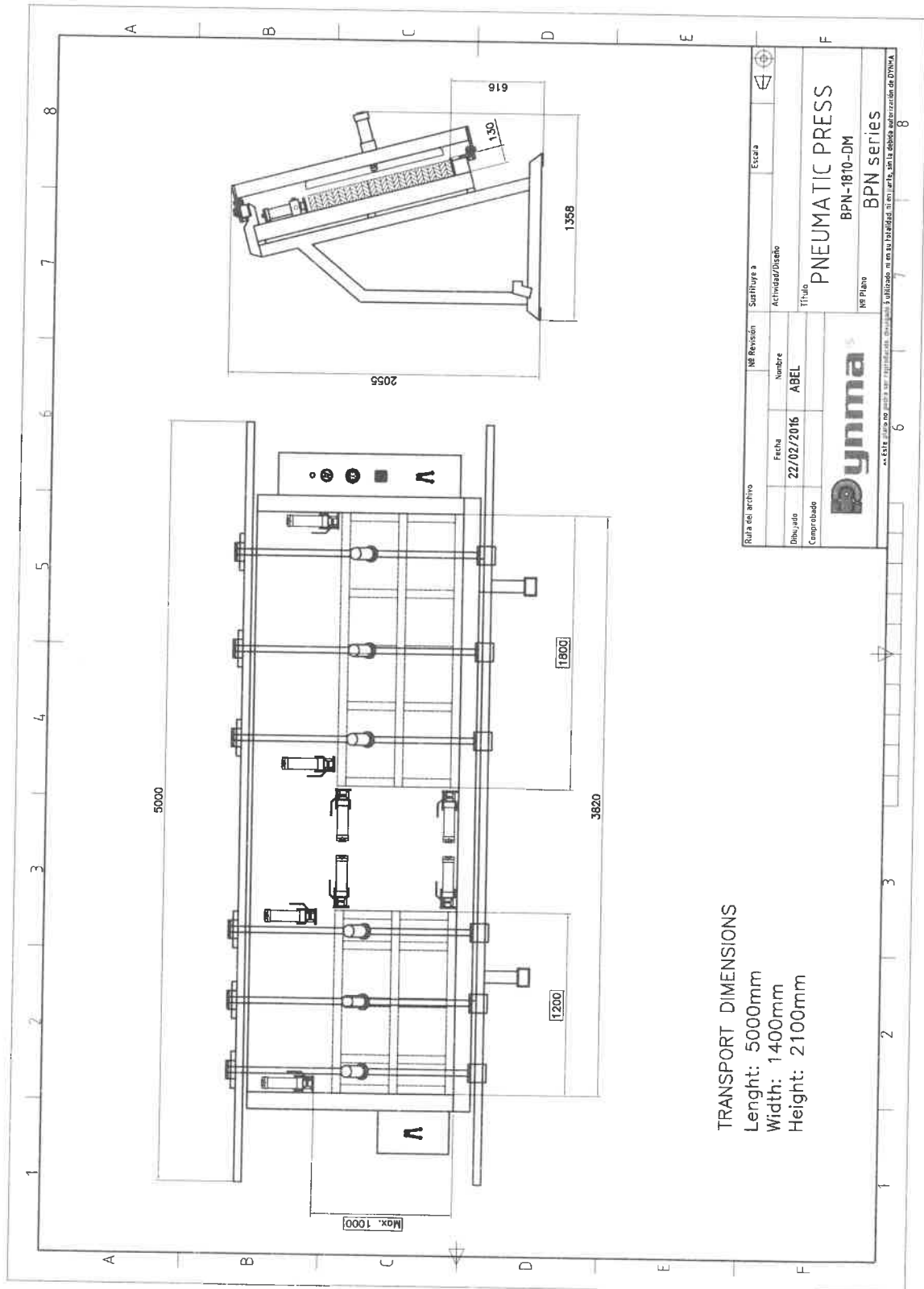
- 12) Lateral clamping action lever
- 13) Lateral pressure regulator
- 14) Lateral pressure gauge
- 15) Vertical clamping action lever
- 16) Vertical pressure regulator
- 17) Vertical pressure gauge
- 02) Pneumatic connection
- 19) Air filter
- 20) Lubricator
- 27) Frontal cylinders control lever



D. TECHNICAL DATA

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D.1. MACHINE DIMENSIONS



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D.2. GENERAL TECHNICAL DATA

CLAMPING DIMENSIONS	
Maximum / minimum frame length	2x1500 / 250 mm
Maximum / minimum frame height	1000 / 250 mm
Maximum frame thickness	150 mm
CLAMPING FORCE	
Maximum lateral force (X)	400 kg
Maximum vertical force (Y)	400 kg
CLAMPING ELEMENTS	
Pneumatic cylinder with fast adjustment	2x (2 + 2) units
Internal diameter of cylinder / stroke	Ø63mm x 100mm
Frontal clamping group	Ø80mm x 125mm
ELECTRICAL CONNECTION	
Voltage / frequency	-----
Electric power	-----
Connection type	-----
PNEUMATIC CONNECTION	
Maximum operating pressure	8 bar
Consumption	25 NL/min.
DIMENSIONS / WEIGHT	
External transport dimensions	5000x1400x2100 mm
Weight	1250 kg

D.3. NOISE EMISSION

The equivalent continuous weighted sound pressure level (LpA) in the area of machine control is less than 70 dBA.

In accordance with the standard set by 89/655/EEC (art. 3 and 4) the data given with regard to sound levels of the machine are sufficient for the employer to assess the appropriate minimum requirements for health and safety of the employees.

D.4. PAINT COLORS

The colours of paint used in the machine DYNMA are mainly:

RAL 7035. Fixed parts of the machine such as the frame.

RAL 7015. Secondary structures of the machine (cylinders an frontal clamping groups).

E. INSTALLATION OF THE MACHINE **BPN-1810-DM**

E.1. WARNINGS



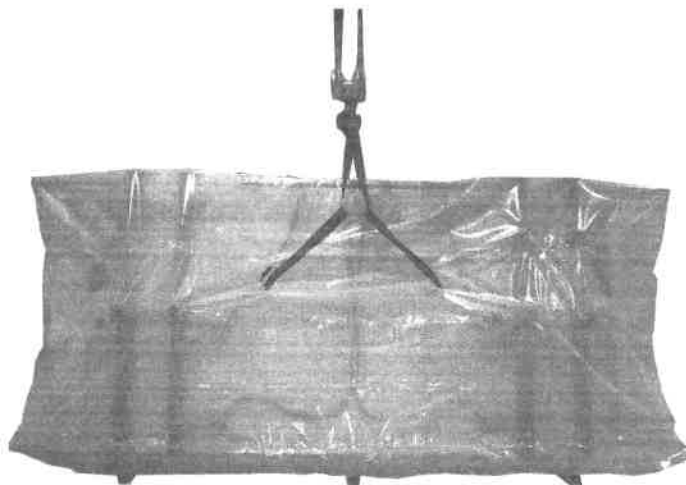
- *Only personnel trained for this type of work may carry out this operation.*
- *The machine must only be lifted using appropriate means (crane bridge, forklift truck, cables) with sufficient capacity.
The capacity of the lifting equipment must be greater than the weight to be transported (see chart in chapter D.2).*
- *There must be no persons close to the suspended load, in the radius of action of the crane, of the forklift truck or of any other lifting and transport equipment.*
- *Do not use a forklift truck if there is a bridge or ground-based crane to lift or transport the machine.*
- *Before lifting or moving the machine, ensure the side clamp moving frame is aligned with the transport mark located in the lower part of the upper cover, in order to ensure the correct alignment of the weight. This positioning is set when the machine leaves the factory and must be repeated every time it is moved.*

E.2. LIFTING AND TRANSPORT OF THE MACHINE

LIFTING OF THE MACHINE BODY

Proceed as follows to lift and move the machine safely:

- In the central part of the perforated table there are two separate loading eyebolts through which the two wires or rope slings should be engaged, the angle between the two must not exceed 90 °. The wire cables or slings must support individually a nominal load of 500kg and those which are in a questionable conservation condition and are not marked with the maximum working load must be rejected.
- Lift the machine very slowly to prevent it swaying, ensuring the load is properly aligned.

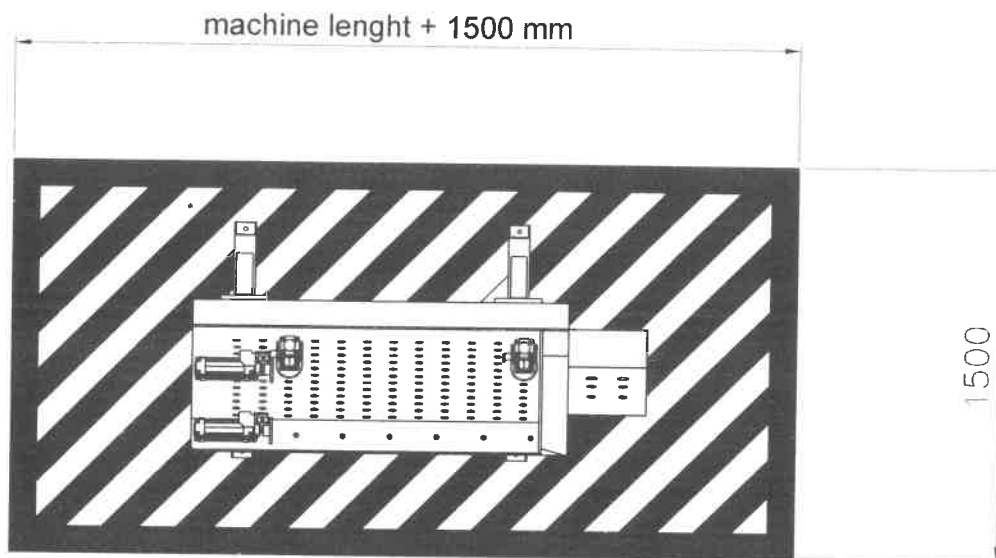


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E.3. LOCATION

The machine must be properly located in an area marked on the ground (preferably painted in yellow diagonal stripes) and its outline limited, with the following objectives:

- To demonstrate visually the risk area during the operation and this area is not to be used as storage for various objects, which present additional hazards as they hamper the work of the press.
- Maintain a clear work area, to allow quick access to emergency controls and devices from the press.
- To have sufficient space available for normal use and maintenance operations.

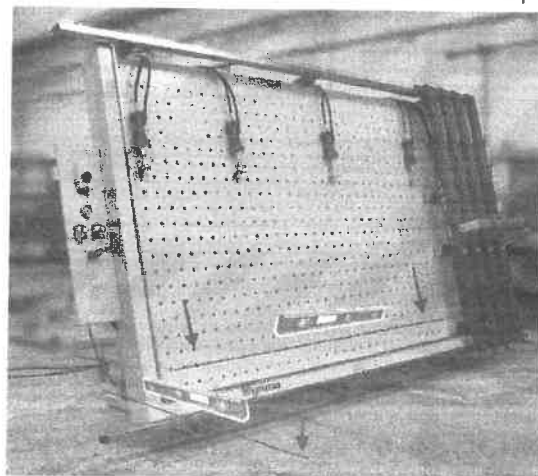


- The ground on which the machine is installed must have a slope not exceeding 30mm.

E.4. LEVELING

To ensure correct levelling of the machine situated on a level on the bench press, check both the longitudinal and transverse level.

You may correct the level of the machine using the four levellers located on the level screw (Ref.1) Once properly levelled, tighten the lock nut on each level to establish its position.



E.5. PNEUMATIC CONNECTION

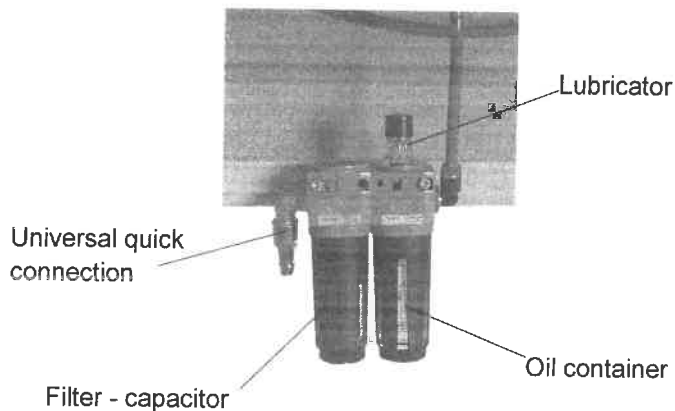
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- Operation to be carried out by specialist personnel.
- Make the connection without air pressure in the supply line.
- There is a risk deriving from unexpected leakages of air.

Check that the pneumatic installation is duly sized to supply sufficient flow and pressure to the machine. The minimum airflow necessary for the correct operation of the machine is 25 NI/min, and the supply pressure must never be lower than 6 bars.

The pneumatic connection shall be carried out exclusively using flexible duct (interior diameter of Ø8mm), connected to the universal quick connection point supplied with the press. The length of this duct must be as short as possible in order to reduce the loss of pressure and flow to the maximum (a length of less than 4 m is recommended.)



Check that the lubricator of the drive unit contains oil up to the indicated level; if it does not, add pneumatic oil with viscosity **ISO VG-15** (e.g. "Beslux Neulub 15") up to the level marked. Regularly discharge the condensed material in the filter by turning the drainage device in the lower section.

F. USING THE EQUIPMENT

BPN-1810-DM

F.1. WARNINGS



- The operations described below must be performed by a generic operator assigned to work the machine, who has received adequate information on its functions and risks arising from its use.

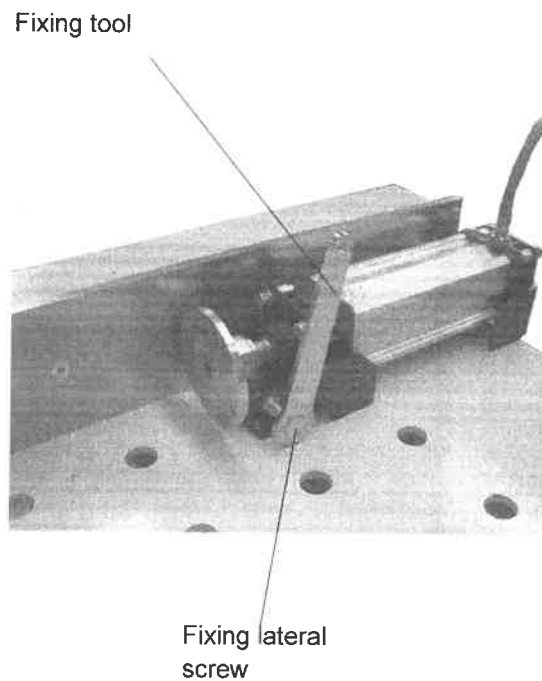
E.6. POSITIONING THE CYLINDERS

The press fixing surface is characterized because has holes' matrix to fixing the pressing cylinders.

The distance between holes (vertical & lateral) is 100mm.

Each of pressing cylinders has in the inferior part, a single fixing bolt that allows you to fix it position over the pressing surface.

The lock-unlock of cylinder, is done when you turn the lateral screw with the fixing tool.



After place the piece to be pressed on the drilled surface, put the cylinders with a separated distance between the cylinder and piece, lower than 90mm. Done this correctly allows that the cylinder stroke is enough to press the piece.

F.2. PRESSING

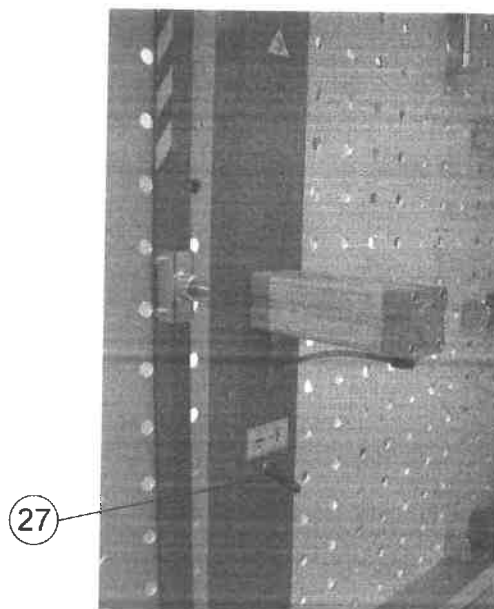
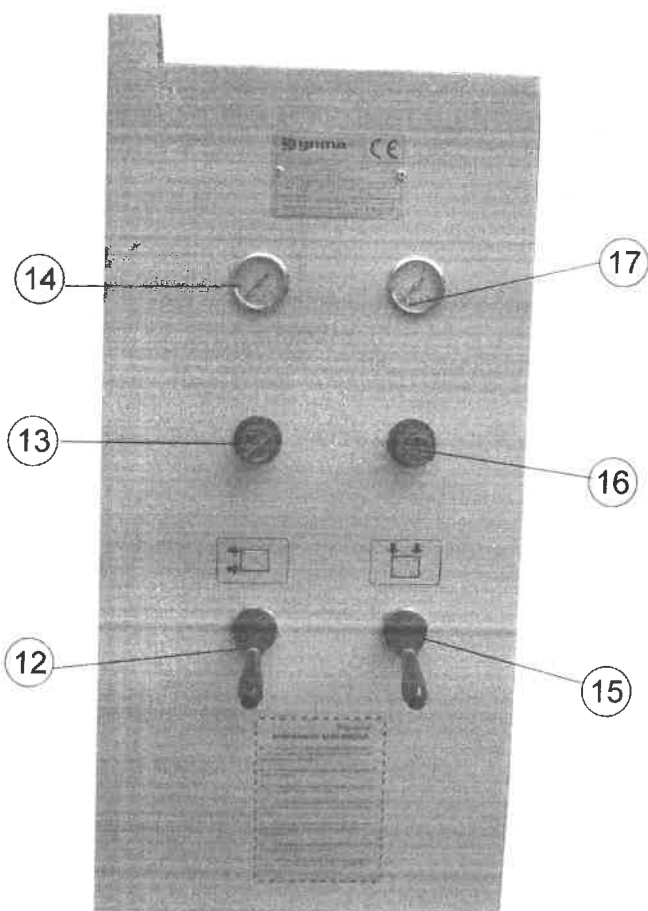
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- Do not introduce any part of the body in the press area whilst the clamp is in operation.
- Trapping hazard.
- The manual must be read by the operator before using the machine.



The vertical & lateral strength can adjust turning the press regulators (ref.16, 13) and can saw on manometer (ref.17, 14).



After place the piece to be pressed, on the drilled surface, and moving it to the lateral & inferior corner, we can start the piece pressing, pushing up the control levers (ref.12 y 15).
If the press is used to glue lipping solid wood, is necessary, before pressing with vertical or lateral hydraulic cylinders, fixed the piece with the pneumatic frontal cylinders. The operation of these frontal cylinders starts pushing up the control lever ref. 27.

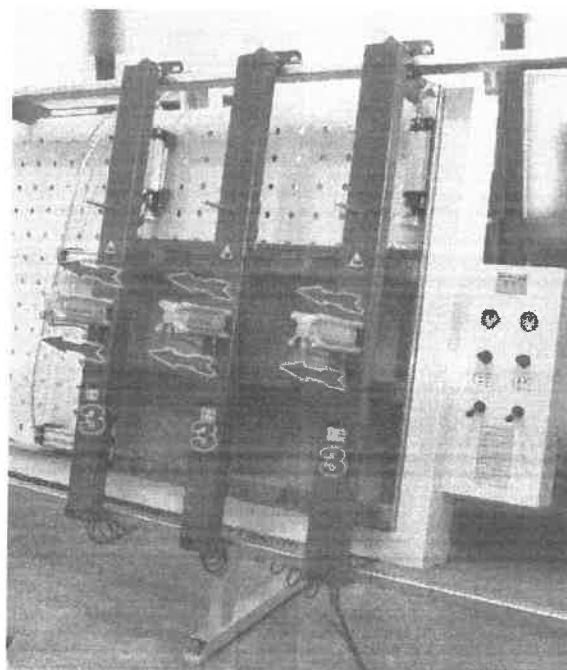
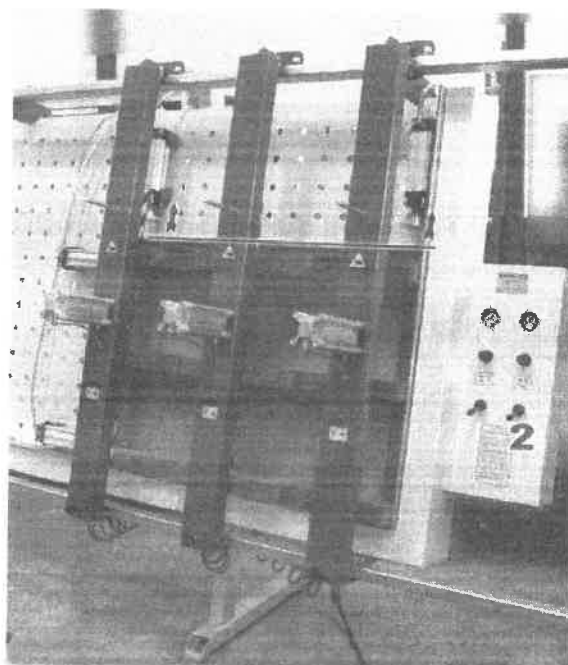
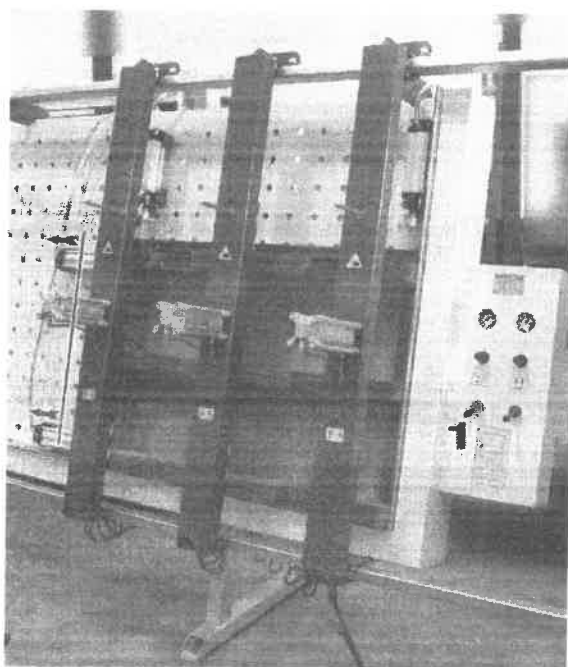
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F.3. RELEASING & UNLOADING THE PIECE

After the pressing time, upon seem of operator, we reverse the cylinders pushing down the control levers (ref 12 y 15). This operation allows remove the finished piece.



ATENTION!! If the pneumatic frontal cylinders are used, we must deactivate the lateral and vertical cylinders before.



G. MAINTENANCE

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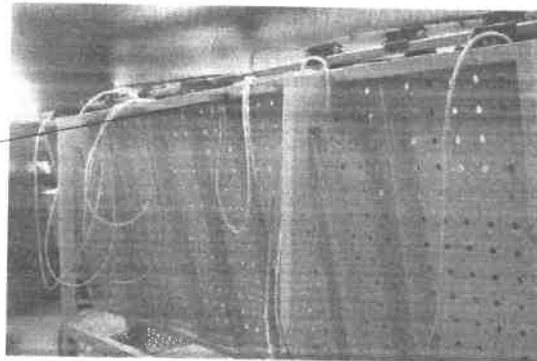


- Operation to be performed by qualified personnel.
- Before performing any maintenance operation check that the machine is free of any object inside it.
- Disconnect the pneumatic connection before making adjustments, changing parts or cleaning.

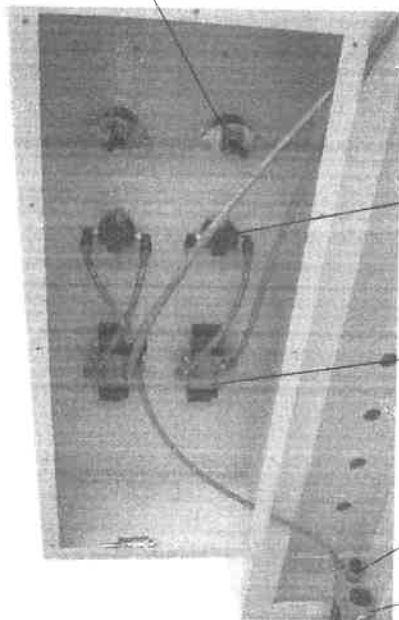
Clean the flat pressing surface daily from the remains of glue that can create undesirable layers or hinder the free movement of the elements.

Check the air leaks from time to time in the items shown in the photographs.

Air hose
Ø8xØ14



Gauge Ø40



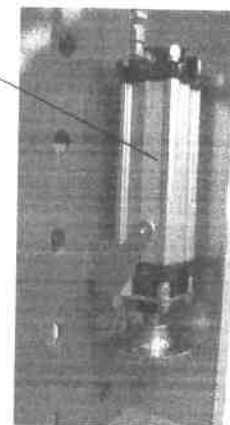
Cylinder S.E. Ø63x100

Regulator
17109B.D

Valve
T224.32.9/2

Lubricator
17003B.P

Filter
17001B.B.P.S



H. "CE" DECLARATION OF CONFORMITY

Desarrollo Industrial de Maquinaria Benicarló S.L. holder of VAT nº B-12701223, declares that the design and manufacture of the machine:

Type of machine	Pneumatic press for cardboard pallets
Model	DYNMA 'BPN-1810-DM'
Serial N°	17_002
Year of construction	2017

Fulfils the dispositions of the **Machinery Directive** and modifications 98/37/EC (modified by Directive 2006/42/CE)

The following harmonised standards have been specifically applied to ensure conformity:

- EN-292.** Machine safety. Basic concepts. General principles for design.
EN-894-1. Machine safety. Ergonomic requirements for the design of signage devices and controls.



DESARROLLO INDUSTRIAL DE MAQUINARIA BENICARLÓ

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Signed:

Abel Estupiñá Guinovart.

Benicarló, 26/01/2017