User and Maintenance Manual for CNC Drill Tap Centre MODEL BM 3000

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EG Conformiteitsverklaring - EG Konformitätserklärung

EC Declaration of Conformity - Déclaration de Conformité CE

Geachte Klant - Sehr Geehrter Kunde - Dear Customer - Cher Client,

Gelieve hieronder onze CE-homologatienummers te willen vinden voor onze houtbewerkingsmachines

Bitte finden Sie anbei unsere CE-Homologationsnummern für unsere Holzbearbeitungsmaschinen

Please find herewith our CE-homologation numbers for our woodworking machines

Nous prions de trouver ci-après nos numéros d'homologation CE nos machines pour le travail du bois

Wij, wir, we, nous

NV WERKHUIZEN LANDUYT

Kolvestraat 44

8000 BRUGGE - BELGIE

verklaren hierbij dat de bouwwijze van de machines - erklären dass die Bauart der Maschines - herewith declare that the construction of the machines - certifions par la présente que la fabrication des machines

ROBLAND BM – 3000

CNC boormachine, Perceuse CNC, CNC boring machine

voldoen aan de volgende richtlijnen / folgende Bestimmungen entsprichen / comply with the following relevant regulations / sont conformes aux Normes suivantes:

Machine Directive 2006/42/CE - 2006/95/EC Low Voltage CE Directive

EMC Directive 2004/108/CE - EN 12100- Part 1 and Part 2 / EN 60204 Part 1 / EN 861

Brugge 15/07/2011

Yves Damman

Aftersales

tevens gemachtigd om technisch dossier samen te stellen

also authorized to establish the technical file

également authorisé d'établir le dossier technique

auch ermächtigt die technische Unterlagen zusammen zu stellen

Important instructions when ordering spare parts

Always mention the following items on your order:

- Type of machine
- Serial number from manual
- Part number and quantity
- Your reference and correct phone and fax number

Attention

Working with woodworking machines can be extremely dangerous if the safety instructions are not followed.
It is recommended you systematically use the safety equipment installed on the machine.

Safety and maintenance instructions

Woodworking with machinery is a pleasant job that will give you a lot of satisfaction. Nevertheless, working with a machine requires constant attention and care. Therefore, for your own safety, pay attention to the instructions summarised in this chapter.

- The machine can only be used safely if the operator strictly follows the operating and safety
- instructions.
- It is absolutely essential to read this manual before using the machine so you know how the machine works and what its limitations are.
- Always make sure that all safety devices are fitted to the machine and that the machine is connected to a dust extraction system.
- Provide sufficient space around the machine and good lighting in the workshop.
- When changing the tools or when doing a maintenance job, the machine must always be disconnected from its power supply.
- Knives and tools which are not correctly sharpened or are in bad condition not only diminish the quality of the work, but also increase the risk of accidents.
- Always wear suitable clothing. Loose or torn clothes are very dangerous.
- Keep children away from the machine and the workshop.
- To avoid damaging your hearing we recommend you wear ear protection when working with the machine.
- Make sure all periodic maintenance work is done on time. These maintenance works may only be carried out with the machine disconnected from the main power supply line thus rendering it impossible to start the machine involuntarily.
- Read carefully the instructions for cleaning the machine, clean only with the machine disconnected from it's power supply line.
- Test on a weekly basis the following electrical components: emergency stops buttons, the safety switchs on the saw unit and test if the machine can be started-up with open doors.
- Please read the noise emmision values in the manual.
- Always wear ear protection when operating the machine.

Operating instructions

The following recommendations for safe working procedures are given as an example, on top of all the information specific to this machine and necessary for the safe use as an example.

When working with the machine, safety equipment must be used.

The user must follow the operator instructions in order to avoid accidents.

1 Training of machine operators

It is essential that the operators of the machine receives thourough training regarding operating and adjusting of the machine

In particular:

the risks involved in working with the machine.

the operating principles , the proper use and setting of the machine.

the correct selection of the tool for each operation.

the safe handling of the parts to be processed .

to the position of the hands in relating to the cutting tools.

Storing the workpieces before and after machining them.

2 STABILITY

In order to be able to use the machine safely , it is essential to place it stable on the floor.

3 ADJUSTMENT AND INSTALLATION OF THE MACHINE

Before adjusting the machine, it must be disconnected from the mains .

When installing and adjusting the tools the recommendations of the manufacturer should be followed.

The tool must be properly sharpened and installed.

4 HANDLING OF TOOLS

When handling the tools, one should always wear protective gloves to avoid severe cuts.

Even blunt tools can cause serious injuries to your hands. .

5 INTENDED USE OF THE MACHINE

The machine may only be used for the processing of wood.

The following jobs can be performed:

- Drilling holes from 3 to 35 mm in diameter
- Drilling holes for hinges
- Sawing of grooves (only horizontal and only in the top 40 mm of the workpiece).

PROHIBITED USES

It is forbidden to use the machine for any other type of job that is not included in the above list.
It is forbidden to use other material than wood.

Acoustic levels

The values given are the emission levels and not necessarily the levels at which the operator can work safely.

Although there is a correlation between the emission values and the level of exposure , it can not be used reliably to determine whether additional measures should be taken .

NOISE INFORMATION

Measurements as per ISO Norm 7960; Annexe D

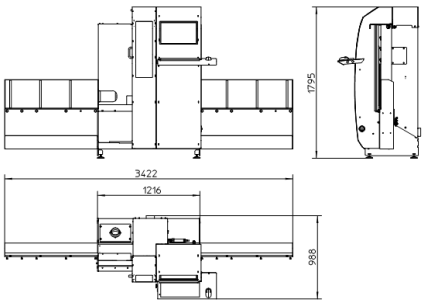
Workpost under load	Level continuous acoustic pressure as per index A dB (A)	Level acoustic power dB (A) (MW)	Max. value acoustic pressure as per index C (instantaneous) dB
Sawing/Drilling	91	105(26.3)	< 130

DUST EMISSION

Measurements according to DIN 933 893 and B. G. requirements for testing of dust emissions from woodworking machines (GS -HO - 05) .

Show the gains obtained that the maximum TRK value of 2mg / m was not exceeded. See the local regulations on occupational safety.

General Dimensions



Technical data

Tension	400 V
Motor boring unit	1 Hp
Weight	550 kg

Tools

Drill nr 1	dia 5 mm, LH
Drill nr 2	Routing bit dia 8 mm RH
Drill nr 3	dia 15 mm RH
Drill nr 4	dia 35 mm RH
Saw	90 x 30 mm

Dimensions workpiece

Length min / max	300 / 3000 mm
Height min / max	120 / 900 mm
Thickness min / max	12 / 30 mm

Manual tool change

X-axis speed	.	20m/min max
Y-axis speed	.	20m/min max
Z-axis speed	.	5m/min max

2. Installation

2.1 ELECTRICAL INSTALLATION

The electrical connections must be carried out by a qualified electrician who is able to calculate the exact needed wire section and caliber of fuses.
Check that the mains voltage of your machine corresponds with the voltage in your workshop.
Open the electrical connection box (fig. 1) underneath the infeed planer table.
Connect the three phases to the terminals marked L1, L2, L3 (fig.2).

Connect the neutral (blue) to the terminal marked N.
Connect the earthing (green-yellow) to the terminal marked with the earth symbol PE.
ATTENTION:
Check first if the spindle runs free and if all protections are mounted before starting up the machine.
If the rotation direction of the spindle is not correct, the leads L1, and L2 must be exchanged.
The machine is equipped with overload protection. Should the motor be shut-off by this protection, it is necessary to wait for a few minutes untill the overload has cooled down, and resets itself.

The differential breaker installed in the machine mains electrical connection must be type B, with a minimum operating current of 300 mA.

2.2 DUST EXTRACTION

A good dust extraction IS ESSENTIAL FOR MACHINE OPERATION AND OPERATOR HEALTH.

ALWAYS WORK WITH THE MAIN ASPIRATION IN OPERATION

- Connect the aspiration connections (at the lower rear of the machine) to the dust extraction system with 100-mm diameter flexible hose.
- The aspiration system must have a flow rate of at least 25 m/min and a depression of 940 Pascal.

2.3 Pneumatic system connection

- The operations performed in this operation must be carried out by qualified personnel.
- Ensure that the factory compressed air system does not contain any condensed water or solid impurities, such as residues, emulsified oil or incrustations.
- The distribution line must comprise piping of not less than10mm diameter.

The machine working pressure is 6 kg/cm^2.

3. Controls

a.- Computer

- Standard computer with operator interface machine control (C),
- USB reader.(U)
- Emergency pushbutton. (P)
- Computer ON button .(E)

- Display (D), Keyboard (K), Mouse. (M)
- Main switch with slot for lock. (V)

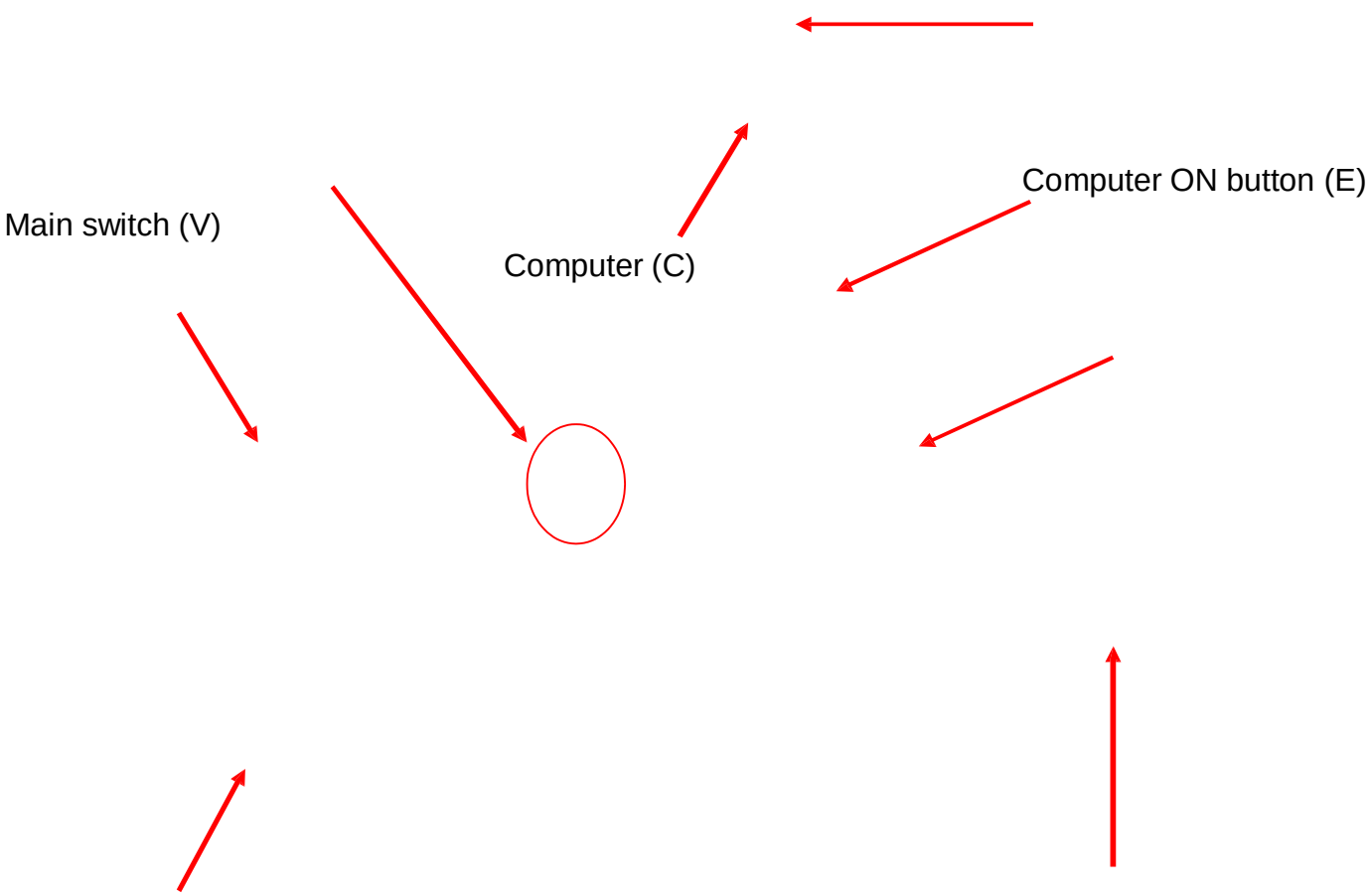
Display (D)

USB
reader

Keyboard (K)

Emergency mushroom
pushbutton (P)

Mouse (M)



b.- EMERGENCY STOPS

The emergency button must be periodically tessed to check for correct operation.

There are 5 emergency stops on the machine:

- The emergency stop on the control panel
- The door
- The air pressure
- The central greasing
- The temperature which is too low (below 15°C.)

3.1 Putting the machine into service

a.- Verify that the compressed air pass valve is open. (**Figs. N1 and N2**)

b.- Switch on power to the line to which the machine is connected.

c.- Set the main switch to I (ON). (**fig. C1**)

d.- Turn on the computer with the Computer ON button. (E). (**fig. page 17**)

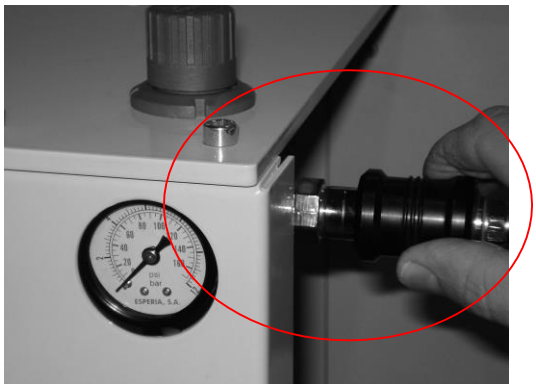


FIG. N1

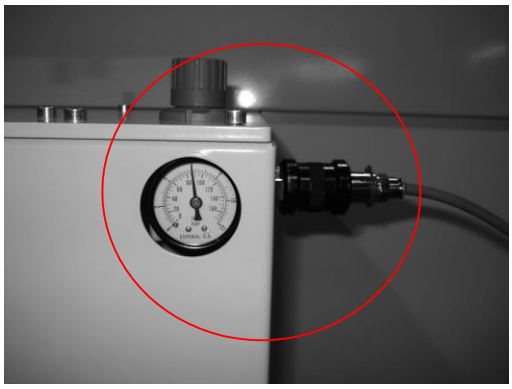


FIG. N2

e.- Start the applications Gcad and Mach3.

f.- Click through the mouse cursor, the **RESET** button (page 21) on display, if this does not leave the **RESET**, check:
1.- If the correct pressure and air in the pneumatic circuit. (**fig. N2**)
2.- If the emergency stop is activated. (**page 18**)
3.- If the head access door is opened and therefore the safety switch activated. (**figs S1 and S2 page 21**)
4.- If it has grease in the piston lubrication. (**fig. E2 page 29**)

g.- Check the direction of rotation of the drill, by accessing the diagnostic screen of the control program and activating the drill. In case it turns in the opposite direction, change the leads on terminal L1 and L2 (**read section 2.1, Electrical installation**).

MAIN DISPLAY CONTROL PROGRAM

CLICK HERE TO POWER ON THE DRILL

DIAGNOSTIC SCREEN

3.2 Using the machine

The parts to be machined should be measured before carrying out any type of job so that they can be entered into the Gcad application software.

Loading the part to be machined

a.- Position the part to be machined onto the supports, as shown in **Fig. M1**, and take it to the end-stop of **Fig. M2**, which shows a close-up of the stop.

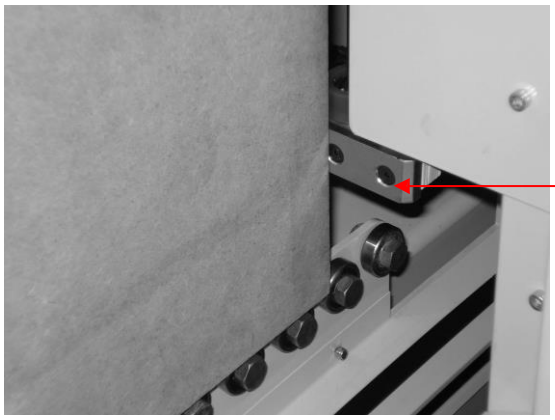


FIG. M1

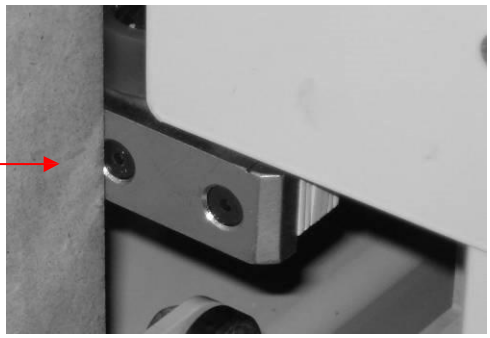


FIG. M2

b.- When the part is in the working position, load the job data with the Lepton Gcad application (**read the Lepton Gcad User's Manual**). When this is completed, the code is generated and then the generated program (named PLANOXY.TAP) is loaded into the control application.

The uses of the programs are explained in detail in each manual.

3.3 Tool change

The manufacturer will not be held responsible for any damage caused if the operator fits a tool that it does not recommended and is not correctly installed. See the tools to be used for changing drills and saw in **fig. 08.**

The tools are changed as follows:

a.- Click on the **DRILL CHANGE** button in the main window, which is located in the lower right of the window. (**fig. 02**)

b.- The following window appears **(Fig. 03)**, which also contains a warning to **take machine lubrication**.

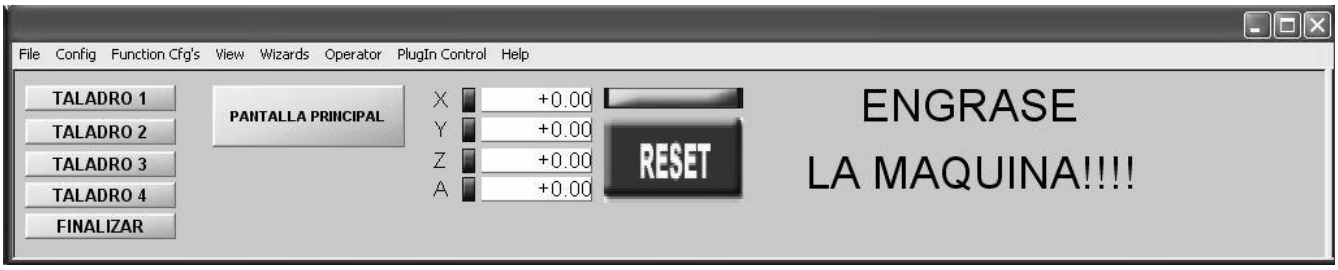


FIG. 03

c.- By selecting the drill to be changed, the head is positioned to change the corresponding drill and the buttons for each drill are displayed on the left of the window as shown in **fig.03**.

d.- Clicking on drill 1 will cause the head to position itself in order to change the indicated drill.

e.- Proceed to open the door using the wrench (mouth key) provided by the manufacturer (**see fig. 08**), once opened, replace the tool (**see fig. 05, 06**).

f.- In order to change to another drill, it is recommended that the door be closed, **RESET** the machine and select the new drill to be changed via the application. Changing the saw can be accomplished by clicking on any drill. (**See fig. 07**)

FIG. 04

FIG. 05

FIG. 06

FIG. 07

g.- With the drill(s) changed, the **END** button is clicked and the head will move to the working position. Clicking on the **MAIN WINDOW** button will return to the application start window.

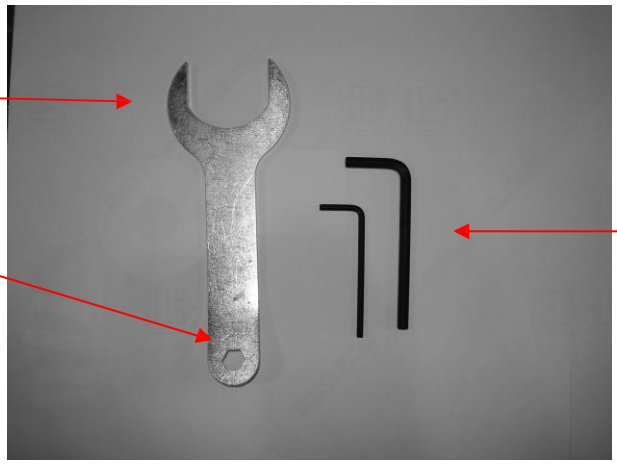


FIG. 08

3.4 Switching the machine off

The following procedure is used to correctly switch off the machine:

1.- Press the emergency stop.

2.- Close all programs.

3.- Switch off the computer by going to Start and clicking on “Shut down computer”, then on “Shut down”

4.- the computer screen is switched off, remove mains power from the machine by setting the main switch to OFF.

5.- Close the compressed air pass valve. (**fig. N1**)

4. Maintenance

Before commencing any cleaning, maintenance, regulation and/or replacement of any part of the machine, set the main switch to OFF **(Fig. C2)** and close the pneumatic valve. **(Fig. N1**)

FIG. C2

FIG. N1

Only correctly trained and authorised personnel may use this machine and carry out maintenance operations.

Only original manufacturer’s spare parts should be used to replace machine parts.

All general safety regulations and those relating to occupational medicine shall be observed.

4.1 Maintenance table

The following operations must be carried out by qualified personnel:

Every eight hours of operation:

- Workbench cleaning and the machine in general.
- Cleaning of excess grease.
- Work area cleaning.
- Pneumatic system checks and grease level.
    - Quality check on the tools

Warning:
NOT PERFORMING MAINTENANCE OPERATIONS COULD LEAD TO POOR MACHINING QUALITY AND INCREASE THE RISK OF TOOL BREAKING.

4.2. Cleaning

The entire machine and working area must be thoroughly cleaned at the end of each working day using a vacuum cleaner and hand brush.
Do not employ compressed air close to bearings since this could cause dist and splinters to penetrate inside the ball bearings.

The following must always be kept clean:

- The revolving body (head)
- Linear guides
- Drill seating

4.3. Periodic lubrication

Correct lubrication will prolong the useful life of the machine and guarantee improved performance.

Warning: do not mix different types of grease. Mixing greases with different base components can provoke chemical reactions which can damage the machine.

Manufacturer shall not be held responsible for any lack of, or incorrect periodic lubrication or with lubricants other than those indicated, and any damage caused to the machine by any of these causes will not be covered by the guarantee.

Automatic axes lubrication

After each job or a machine cycle, this is greasing automatically, using a mechanically operated valve. (**fig. E1**)

FIG. E1

Grease piston is at the left rear of the machine (**fig. E2**)

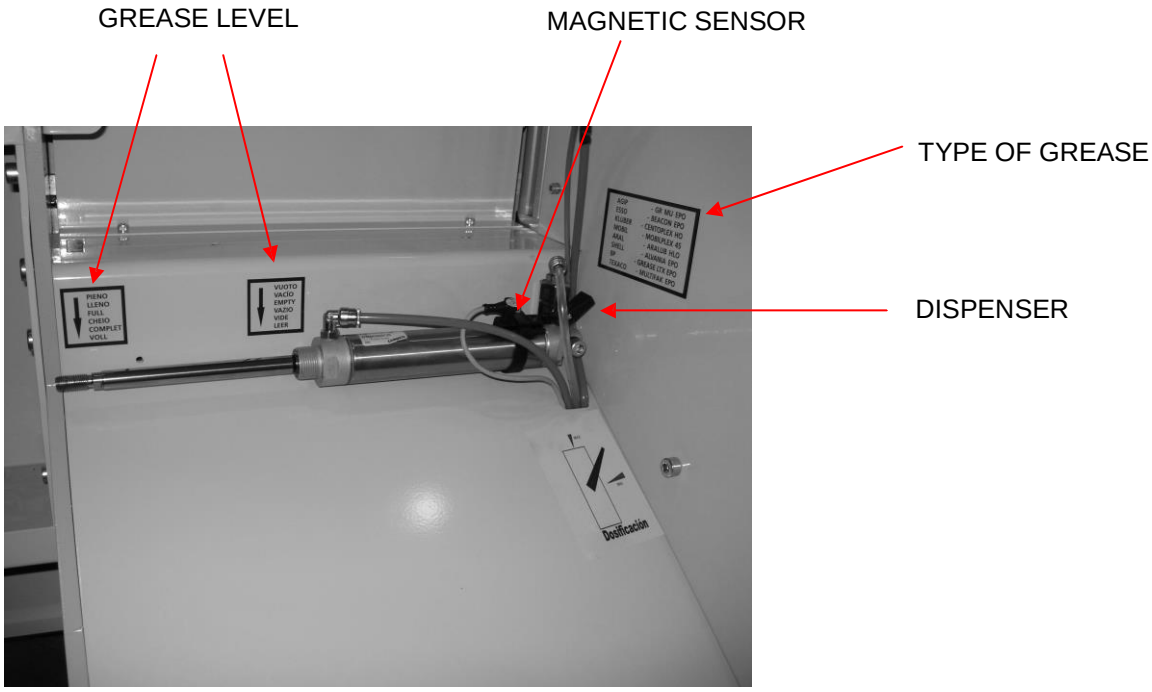


FIG. E2

Magnetic sensor: when the piston lubrication is empty, the sensor activates the emergency stop. To be able to continue working, the piston must be refilled with grease.

Dispenser: serves to increase or decrease the volume of grease at each sequence of piston lubrication. This may never be closed completely!

To refill the piston first close the pneumatic valve. Then disconnect the hose that is in the fitting of the pump (**Fig E3**), and connect it to the manual grease pump (**Fig E4**). Fill the piston, reconnect the hoses and open the pneumatic valve.

The manufacturer recommends the grease type **AGIP GR MU EP0**,

Or alternatively: ARAL ARALUB HL 0
BP GREASE LTXEP 0
ESSO BEACON EP 0
KLÜBER CENTOPLEX H 0
MOBIL MOBIL PLEX 45
SHELL ALVANIA EP 0
TEXACO MULTI FAK EP 0

FIG. E3