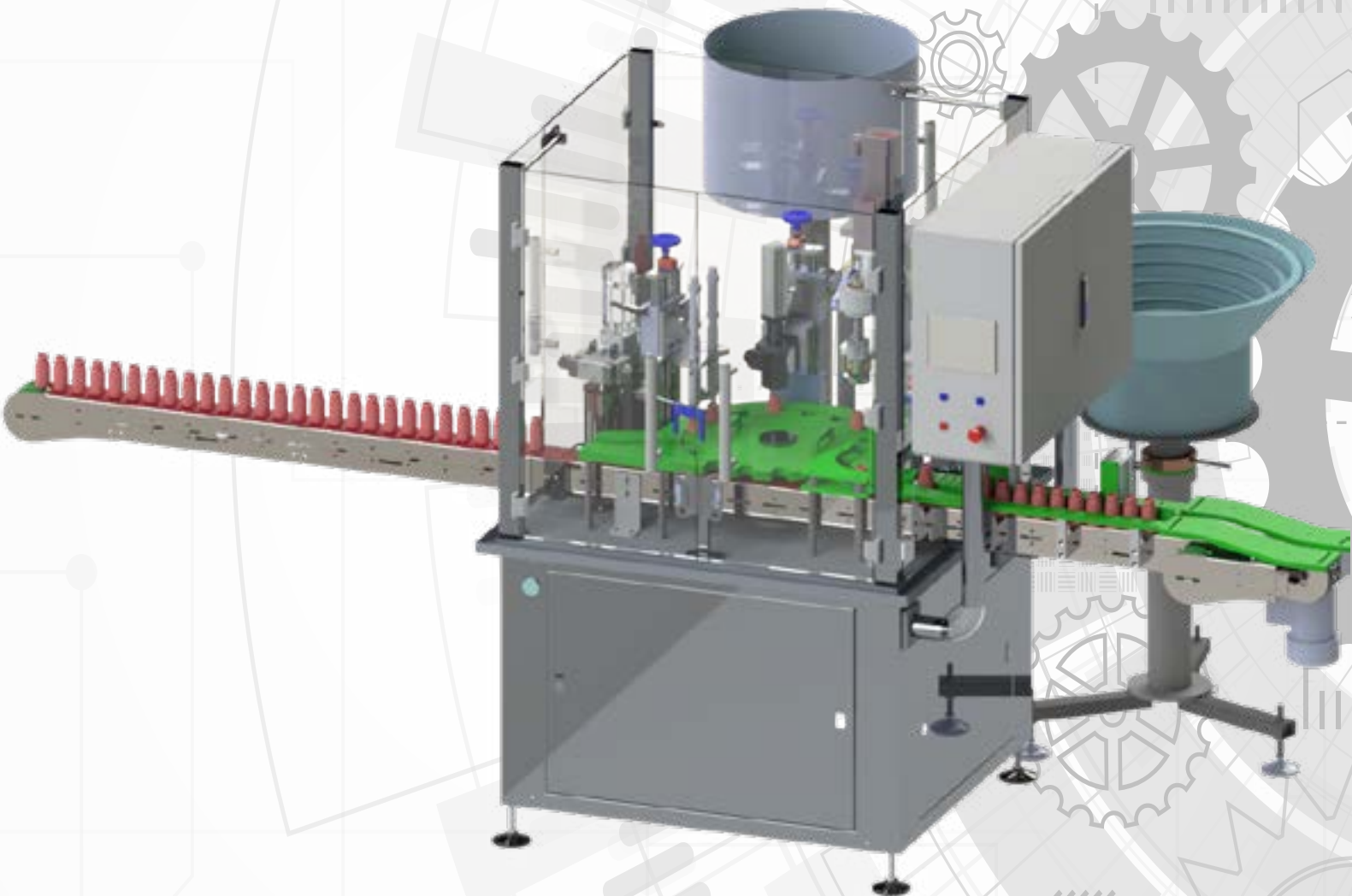




# ELEKTROMAG MACHINERY

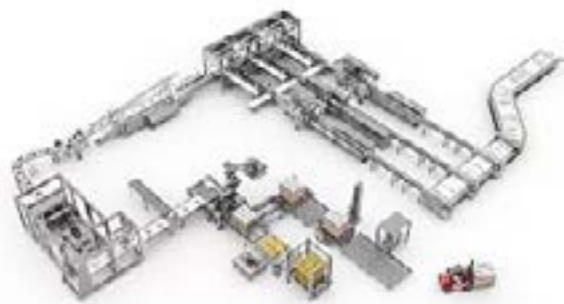
## Filling & Capping Machines



USER MANUAL

YOUR INNOVATION SOLUTION PARTNER





Turnkey Liquid Line Solutions



Customer-Specific Solutions



R&D

About us

Started production in a small workshop in Topçular in 1978, Elektromag has become one of the leading companies in the Turkish packaging machinery sector with its 14,000 m<sup>2</sup> closed area and its 70 employees. In the rapidly developing packaging industry, our customers are in search of affordable yet high quality and high capacity machines. Along with the technological developments in existing machines, Elektromag aims to engineer,manufacture and introduce simple and high capacity machines.

Our Production Programme

Automatic Machines

- Plastik Bottle Unscrambler machine

Blow air bottle cleaning machine

Liquid Filling without gases product

Capping Labelling

Open Cartoning

Cartoning
- Cartoning Packaging Machine

Security Band Machines

Shrinking Machinery

Body Sleeve Machinery

Datamatrix Coding Machinery

Ampul Labelling

Semi-automatic Machines

- Capping
- Filling

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The data in this user manual is based on general data about the method of operation of parts and machinery.It is known the published date,we have reserved the right to make a changes without notice.

This document is valid for given version filling&capping machines. The manufacturer therefore assumes no responsibility for any damage or injury caused by deviating from the technical specifications of the specified machine.

All possible care was taken in creating this document, but the manufacturer does not accept responsibility for errors or any consequences

PLEASE READ THIS DOCUMENT FOR YOUR SAFETY.

ROPER USAGE OF THE FILLING AND CAPPING MACHINES:  
2019





The ongoing success of Elektromag depends on quality, which is the most important competitive factor of today. The quality of the product and company for our company is an inseparable whole. Our Quality Policy:

To continuously improve and improve quality management system .To ensure that the product is completely suitable for the purpose used.To ensure that the customer can obtain the product on time and in accordance with Sunday prices, to reflect the latest technological developments on the products, not to fall behind the technology. To increase the customer's confidence in the company's competence. To ensure that all employees are qualified and qualified in their fields and to reinforce them through training. Ensure a regular, clean and reliable working environment To ensure that the instructions, procedures and job descriptions used within the company are adhered to one by one. Working in accordance with national laws and regulations

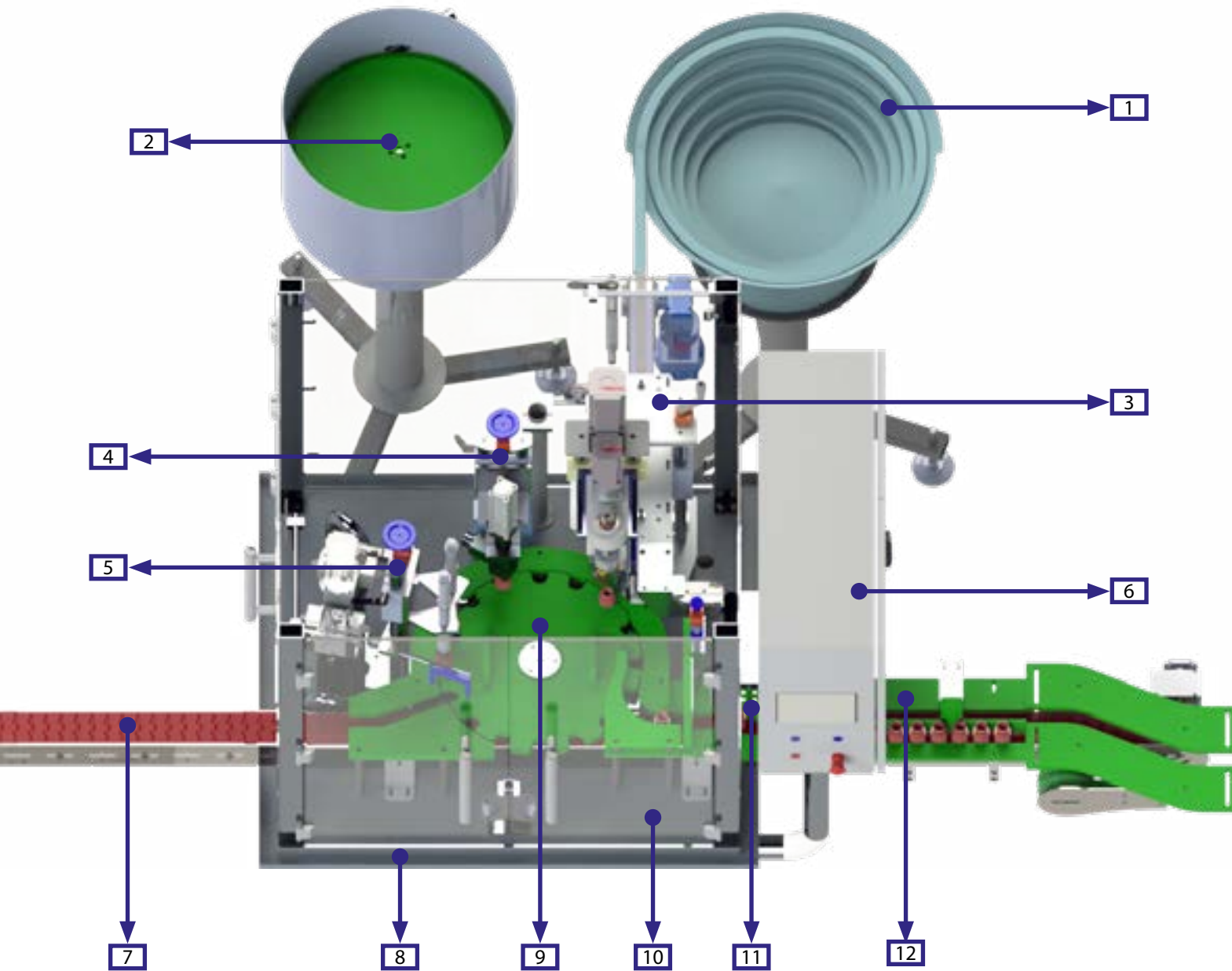
## Information

# 1





## 1.1 Main Components



- |                      |                     |
|----------------------|---------------------|
| 1) Vibratör          | 7) Conveyor         |
| 2) Ball Choicer      | 8) Chassis          |
| 3) Closing Unit      | 9) PE Carrier Group |
| 4) Drilling Unit     | 10) Pleksiglas Cap  |
| 5) Filling Unit      | 11) Eject Unit      |
| 6) Electricity Panel | 12) Reject Box      |

## 1.2 Manufacturer Definition Plate

### ELEKTROMAG MAKİNA

Ç.O.S.B 15.Sokak No.3  
59500 - ÇERKEZKÖY / TEKİRDAĞ  
Phone. 0282.726.13.14  
Fax. 0282.726.14.43  
www.elektromag.com.tr

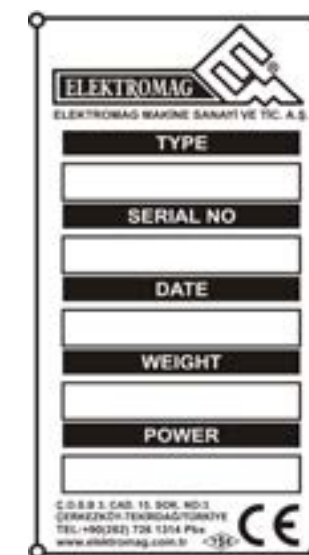
## 1.3 Service and Technical Support

Please contact the manufacturer for settings, maintenance, and information that fall outside this guide. We are always willing to help you. Make sure you have the following data before you search:

- Machinery Model
- Serial Number

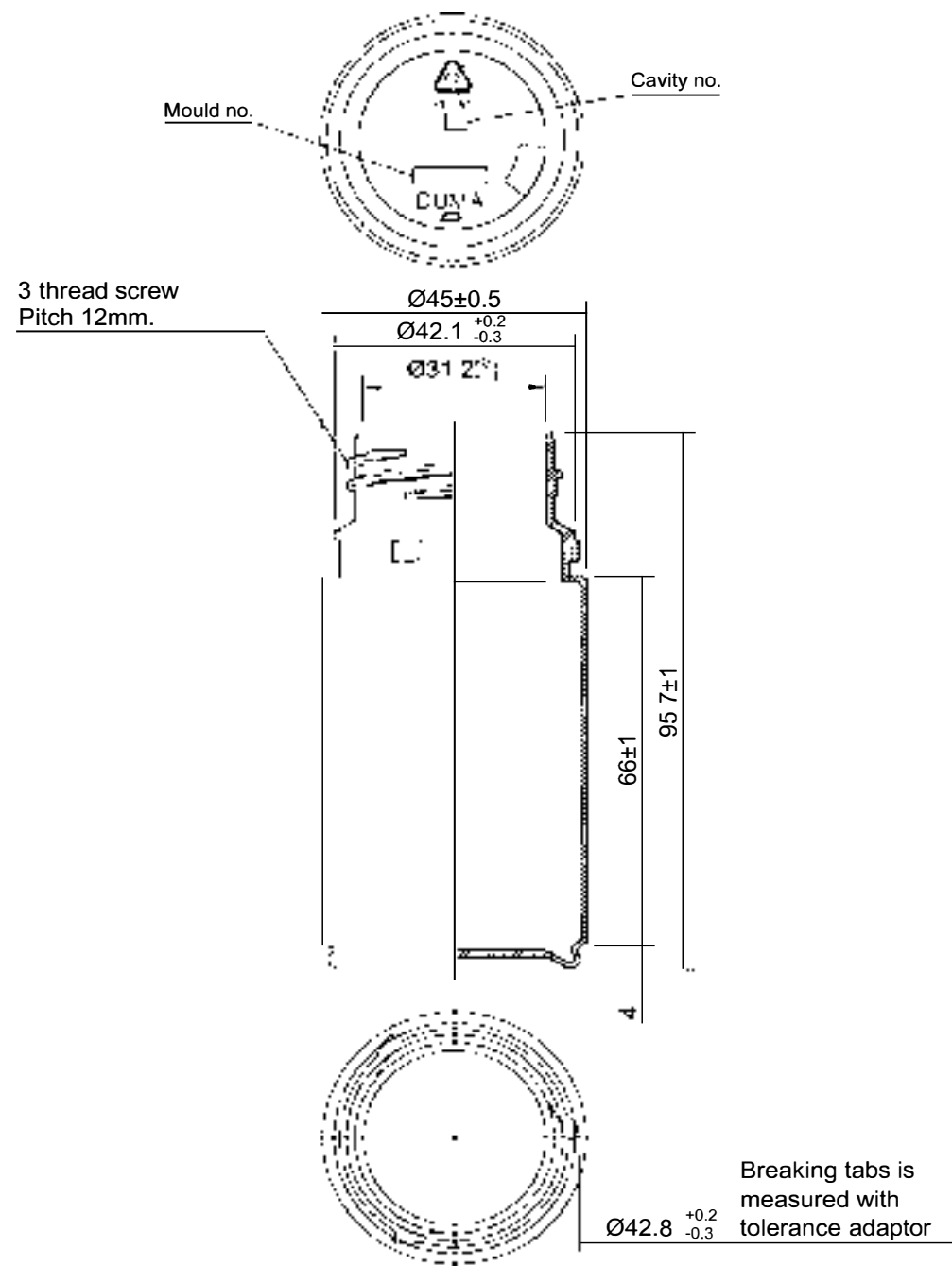
## 1.4 Machinery Definition Plate

Definition Plate is indicated below:



1.5 Expected Usage

This particular machine model only filling & closing in specified bottle types and cap sizes.



Any use or use of materials of different sizes or types other than those specified is considered inappropriate. The machine is intended for professional industrial use in all cases.

1.6 Necessary Environmental Conditions

To ensure proper operation of the machine with an ambient temperature not exceeding 5°C and 45°C, rain, hail, snow, fog, dust should be kept in a closed environment for protection. The work area must be clean, sufficiently lit and free of explosive gases.

1.7 Technical Specifications

|                     |   |
|---------------------|---|
| System              | Lineer  |
| Work Principle      | Star, Stalling work   |
| Construction        | All surfaces appearing in steel Aisi 304 , All contactable surface with AISI 316, |
| Conveyor            | 82mm PVC with pallet, ~3.   |
| Conveyor Height     | Standart 950 mm ( $\pm 50$ mm)  |
| Package             | Plastic   |
| Control Unit        | Beckhoff Brand PLC Contr  |
| Cap                 | Screwed, Ball nailing   |
| Capping System      | Mechanic, Torque settings,  |
| Capping Head        | 1   |
| Cylinder            | 2 pcs.  |
| Cylinder Volume     | 100cc   |
| Basis Weight        | On touchable screen, auto   |
| Filling Sensitivity | $\pm \%0,3$   |
| Nozzles             | 2 pcs.  |
| Filling Range       | 10-100cc  |

1.8 Destruction

Destruction occurs at the end of the machine's lifetime, which has a life of more than ten years under normal operating and maintenance conditions .When disposing of the machine at the end of its life, all components must be disposed of in appropriate dumps in accordance with applicable legislation. Send used oils to appropriate collection centers. Before disposal, plastic or rubber parts, as well as electrical and electronic components, must be separated. Parts made entirely of plastic, aluminum and steel can be recycled when taken to appropriate collection centers.



## 1.9 Guarantee

### General Conditions

- 1-** Machinery; electrical, electronic, hydraulic, pneumatic and automation equipment except (these parts are covered by manufacturer's warranty) against manufacturing and assembly defects are covered by our company warranty. Other than the technical conditions required by the user and the machine (voltage fluctuations, causes of compressed air, etc.) failures caused by running with ELEKTROMAG company has been excluded from the warranty coverage in the failures that occur as a result of the intervention of non-certified users.
- 2-** Warranty period starts from the date of shipment and is 2 (two) years or 3000 (eight thousand) hours is guaranteed.
- 3-** During the warranty period, the period of maintenance, repair and replacement due to manufacturing and assembly errors shall be added to the warranty period, and this period shall include: starting from the date of application to the station and to the manufacturer or seller company for its replacement.
- 4-** As a result of the failure of our product due to manufacturing and assembly errors within the warranty period, maintenance and repair of our factory will be done free of charge without the cost of Labor and spare parts. However, the transportation, accommodation and costs of the technical service that will go to the service operations that require on-site repair are the customer's own.
- 5-** If it is not possible to repair the defects caused by manufacturing and assembly faults within the warranty period, the necessary parts/parts will be replaced in accordance with the report to be given by our maintenance and repair company.
- 6-** To fulfill our warranty obligations in accordance with the relevant provisions of the Consumer Protection Law dated 3/2/1995 and numbered 4077 if so, we accept and undertake to make the situation public by the Ministry of Industry and trade.
- 7-** Consumers must notify the manufacturer of maintenance, repair and cases by fax or mail.
- 8-** If the consumer is a injured part, the Ministry of Industry and trade must apply to the General Directorate of measurements and Quality Control.

### Special Warranty Terms

- 1-** Our company is not responsible for any damage that may occur during the transportation and placement of the customer.
- 2-** The warranty is valid only for failures that may occur in this machine and our company cannot be held responsible for the damage of any other goods or persons during the operation of the machine, and cannot claim any rights or compensation under any name.
- 3-** Failures that may occur within the warranty period are only resolved by our service personnel. The warranty is void in the event that other persons interfere with the machine without our written agreement.
- 4-** The determination of the faults within the scope of the warranty and the manner and method of their removal belong to our service personnel. Defective parts can be repaired or replaced with new ones. The repair of the faults within the warranty period can be done at the place where the machines are located or at our company's shipping costs depending on our request.
- 5-** In order to resolve a complaint within the scope of the warranty, we will be given sufficient time by the customer and, when necessary, we will provide assistance and tools and equipment.
- 6-** In order for the warranty to be valid, the customer must have made all payments to ELEKTROMAG in full and on time.
- 7-** If damage is done on the warranty certificate, the original serial number on the machine is removed or destroyed, this warranty shall be void.
- 8-** The warranty shall remain in force in the event that the obligations and responsibilities of the customer written in this document, user manual and catalogue are fully fulfilled.



### 1.10 The persons who authorized to operate the machine

The following are the people who can work on the machine after once you have received all the necessary instruction in this guide;

#### **Security Manager**

The security manager will ensure that all people running the machine receive all the instructions set out in this manual. Occupational Safety Training should be provided.

#### **Operator**

The operator must have experience gained under the guidance of expert staff. He can only perform the operations assigned to him in this manual. Under no circumstances is it appropriate for the machine to be operated by untrained persons.

#### **Mechanical Maintenance Technician**

Mechanical maintenance technician should have general machine experience and also special experience in this machine model.

#### **Electrical Maintenance Technician**

The electrical maintenance technician should have the experience of the electrical panel as well as the experience of the electrical panel and the electrical components in this machine.

#### **Manufactured Company**

For other actions not mentioned in this manual or assigned to a person other than those mentioned above, contact ELEKTROMAG.

# Security

# 2



## 2.1 Security Information



The security manager is responsible for informing employees about the risks associated with the use of the machine. It also has to train workers until they can ensure their own safety and the safety of others.

Failure to pay attention to Basic Rules and precautions during operation, maintenance or repair of the machine can cause accidents. Potentially dangerous situations must be eliminated or reported before accidents occur. The operator must be aware of potential hazards and have the necessary training, work capability and tools.

ELEKTROMAG does not accept responsibility for accidents or damage caused by improper use of the machine. The enterprise is obliged to observe applicable safety.

There are safety warning signs on the machine. Safety warning signs are described in the guide. The operator must fully comply with these safety signs. Failure to comply may cause serious damage to itself and its environment.



### ATTENTION !

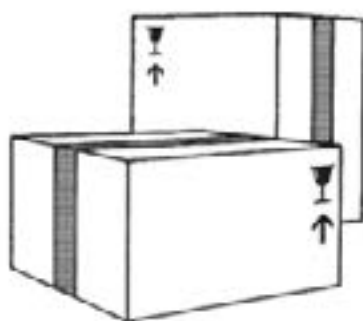
**Failure to comply with these warnings may result in injury to the operator.**



### ATTENTION !

**Failure to comply with these warnings may damage the machine.**

ELEKTROMAG cannot predict every possible danger. The warnings in this guide are not all inclusive. Ensure that there is no danger to yourself or anyone else if instruments, procedures and working methods not recommended by ELEKTROMAG are used.



Use only the original part recommended by ELEKTROMAG

ELEKTROMAG does not accept responsibility for the use of non-genuine spare parts.

## 2.2 Safety Instructions



### Attention!

**The instructions below do not prevent all hazards that may be encountered while using the machine. Following these warnings, along with the operator's common sense and experience, is the only sure way to prevent accidents.**

The presence of a technician may be necessary during Special Operations (change of parts, maintenance, loading etc.).

The operator and technician should work together. The responsible operator is obliged to check that it is working under the security conditions.

If an operation or intervention is required that is not included in the manual, consult Electromag before proceeding.

Access to the work area or machine intervention is not permitted except for the responsible operator and the authorized person.

In the event that the customer attaches an accessory to the machine that cannot be supplied by ELEKTROMAG, they are obliged to carry out the necessary checks to ensure compliance with the safety conditions. In all cases, ELEKTROMAG does not accept responsibility for any potential problems arising from the use of this section.

The machine should not be operated in an abrasive or explosive environment.

Keep the machine away from objects that could damage its operation and cause injury to people.

Wet or oily floors can cause accidents. Immediately clean and dry any liquid or oil stains that occur during any work done on the machine.

Avoid using flammable or toxic solvents such as gasoline, benzene, ether, or alcohol for cleaning.



Avoid prolonged contact with solvents and inhalation of vapors. Keep away from outdoor or heat sources. Provide adequate ventilation.

Prolonged overloads or disruptions can cause electrical motors and electrical equipment to overheat, resulting in the emission of harmful fumes. Turn off the power immediately and fan the media. Do not approach the machine until the resulting smoke is removed.

N

never use drain water with a pipe in case of fire, use a CO2 fire extinguisher tube instead.







When compressed air is used to clean the machine, the operator, any assistant and maintenance technician must wear protective clothing, protective glasses and masks to protect them from possible flying debris.

Employees should use work gloves, shoes, and hearing protection when the acoustic radiation pressure at work exceeds 85db (A), as required. Wear the appropriate work clothes. For long hair, use a hairnet to avoid the risk of entanglement.

The manual must always be kept at hand so that it can be consulted to check the correct working cycle. In the event that this guide is lost or damaged, a backup copy must be requested from the Elektromag.

Structural damage, renovations, alterations or improper repairs may alter the protection capacity of the machine and therefore the warranty may expire. Only ELEKTROMAG technicians can make any changes.

Note that when a red warning light is on, there is a fault in the machine, and therefore the type of error must be identified before proceeding.

During maintenance operations on the machine, a note should be placed on the machine, preferably on the control panel that says "do not operate the machine".

When conducting authorized intervention of a special technical maintenance nature, inspection or repair, the assigned person may be required to disable (partially or completely) some of the safety devices and to open or remove protective guards. It is the personal responsibility of the authorized person after completing the task to ensure the operation of these security devices and the related guards.

To Climb the machine is forbidden.

Electrical cables, switches, buttons, etc. do not touch with wet hands.

There is a red emergency button on the control panel or chassis to stop the machine.

## 2.3 Safety Tags and Markings

Safety tags are available on the machine.



### Attention!

**Make sure all safety signs are not damaged. Tags should be cleaned by using cloth. Never use a solvent material. Replace damaged labels with new labels available from Elektromag. If the label is part of a machine that is being replaced, make sure that a new label is pasted.**



## 2.4 Security and Protection Device



**The emergency button stops all movement of the machine, but does not cut the voltage on the electrical board.**

**Emergency Button (STOP)**



### **Attention!**

**Specified components have special Prevention for security . In case of failure or wear, replacement must be made using parts supplied or permitted by the manufacturer. Protection covers should not be removed while the machine is running.**

## 2.5 The Remains Risks

The manufacturer recommends full compliance with the instructions, procedures, recommendations contained in this manual and the applicable safety regulations, including the use of both machine-fitted and personal safety equipment.

### **Attention!**

As a measure of security interests, the operation of security devices should be checked regularly. Additional hazards or risks of unforeseen consequences no mechanical, electrical or pneumatic modifications are strictly prohibited, so as not to create them.



The risks that remain within the scope of machine foresight are as follows::

**Lack of adequate lighting** If the machine is placed in a dark area, provide a 24-volt portable lamp (for maintenance only)

**Electrical risk due to needed maintenance** Only trained personnel are allowed to intervene. Insulated work clothes if necessary (gloves etc.) should be worn.

### **Attention!**

Before connecting to the power supply, ensure that the AC current at the installation point does not exceed the appropriate value on the meter. If this is not the case, the necessary action must be taken at the customer's expense.



**Risk of misuse in the presence of explosives or flammable substances** The machine should not be used in flammable powders or in areas containing flammable liquids that may evaporate.

**The risk of working in humidity environment**

Follow the limitations described in this guide. Section 1.5 the necessity of environmental conditions.

**The risks that may occur when moving the machine**

It is recommended that the machine or its parts be removed from the point provided, removed to the minimum height required by appropriate means, and moved at slow speed by checking whether the persons assisting in the operation are at a safe distance from the item being carried.

Before moving, make sure the passageways are clean and there are no loose objects in the machine. It is important that to avoid sudden movements or movements that may be dangerous to people in the area, the experienced people should do this thing.

### **Risk of failure in Panel, safety, protection and emergency stop circuits**

Panel, safety, protection and emergency stop systems may not work in case of circuit failure. It is therefore recommended that their functionality be checked periodically.



### The Warning Signs in the Machine

As a result of risks and identification, the manufacturer has affixed a minimum warning label to the machine. Other warning signs that must be affixed to the machine about possible risks are the customer's responsibility. The user is obliged to change the warning labels in case of wear or damage.



#### Attention!

Removal of safety tags and/or warning signs is strictly prohibited. The manufacturer does not accept any responsibility for the safety of the machine if this provision is not taken into account.

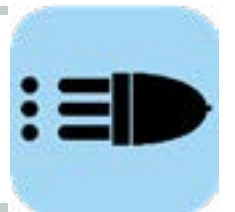


#### Attention!

People being exposed to the moving parts of the machine can create dangerous situations for their safety. It is strictly prohibited to operate the machine until the fixed protection components provided are properly installed. Tampering or removing the bodyguards attached to the machine is strictly prohibited.

## Transport and Installation

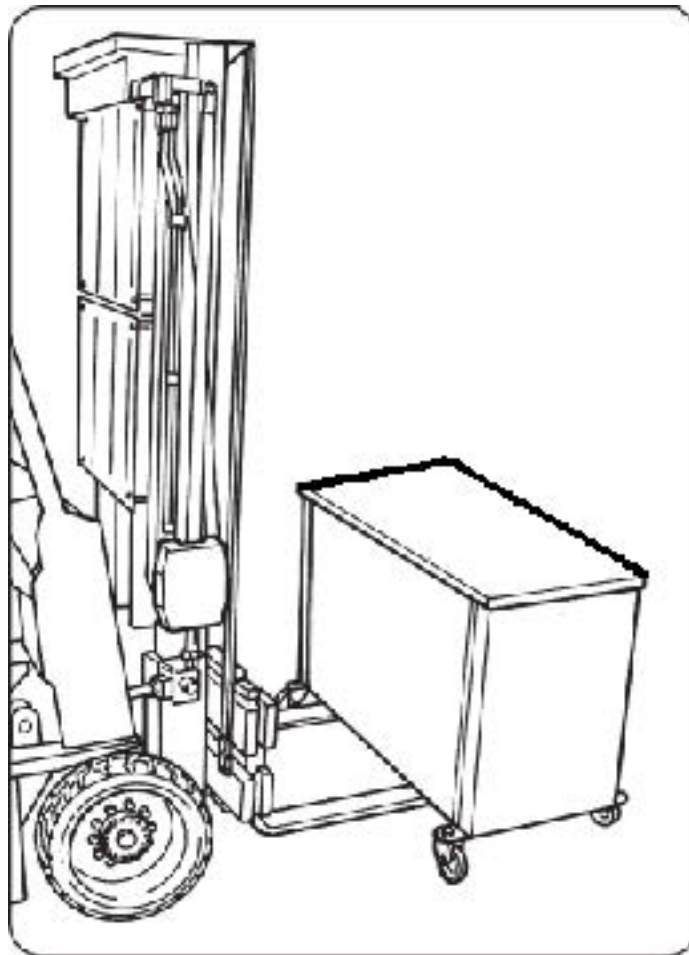
# 3



### 3.1 Carrier



It is the customer's job to ensure that the support Surface power is sufficient to carry the weight of the machine (Weight 950~Kg) Lift and move the machine using a Forklift. Place both forks of the forklift, as in the representative picture. (Take into account the center of gravity).



When carrying the machine using a forklift, lift the load up 200mm above the ground and tilt it backwards. Consider the height of the workspace when lifting the machine. Make sure the passageway is clean and there are no loose objects in the machine before you start the moving. Before attempting to move the machine, the following initial preparations must be made: Make sure the machine is not fixed to the floor Remove all removable parts Block all moving parts to avoid damage during transport Use sufficient lifting equipment for specified weight Empty/remove the product from the machine.



### 3.2 Settlement

#### Attention!

**Before starting the docking process, a preliminary visual scan of the machine must be performed to determine any damage during the transport phase.**

In the event of damage to one or more components during settlement, ensure that necessary precautions are taken when informing the manufacturer about the problem and the path to be applied. The machine will operate within the expected technical parameters as long as it is properly placed or secured on the workshop floor.

#### Attention!

**Only properly trained and experienced persons can make electrical connections.**

### 3.3 Electrical connection of the machine

Electric Connection to the machinery:

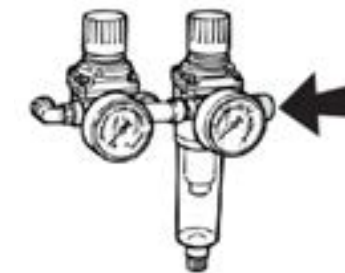
Line Connection

### 3.4 Pneumatics Connection

#### Attention!

**Only properly trained and experienced persons can connect the pneumatic system. Suitable personal protective equipment should be used during connection process**

To ensure the correct operation of the machine, the pneumatic supply system must be at 4 - 6 bar pressure. Connect the (representation) arrow to the point in the image shown below.





### 3.5 Starting

After you have completed all the connections described in the previous section, run the machine. If the phase sequence is incorrectly connected, the phase control part on the panel does not energize the machine. Correct phase sequence. Ensure that all machine units are installed correctly. Ensure that all utilities, both electrical and pneumatic, are connected correctly. Make sure there is no problem with the machine, the mechanical operating range and the security guards (doors) are working properly. Check security systems: emergency button, door switches etc. The work area consists of objects (cables, pipes, etc.) that can create obstacles and hazards for employees.) make sure it is free. Check the function of the buttons and display on the main control panel and the accuracy of the relationship between the command and the function.

Adjust the pressure of the pneumatic system.

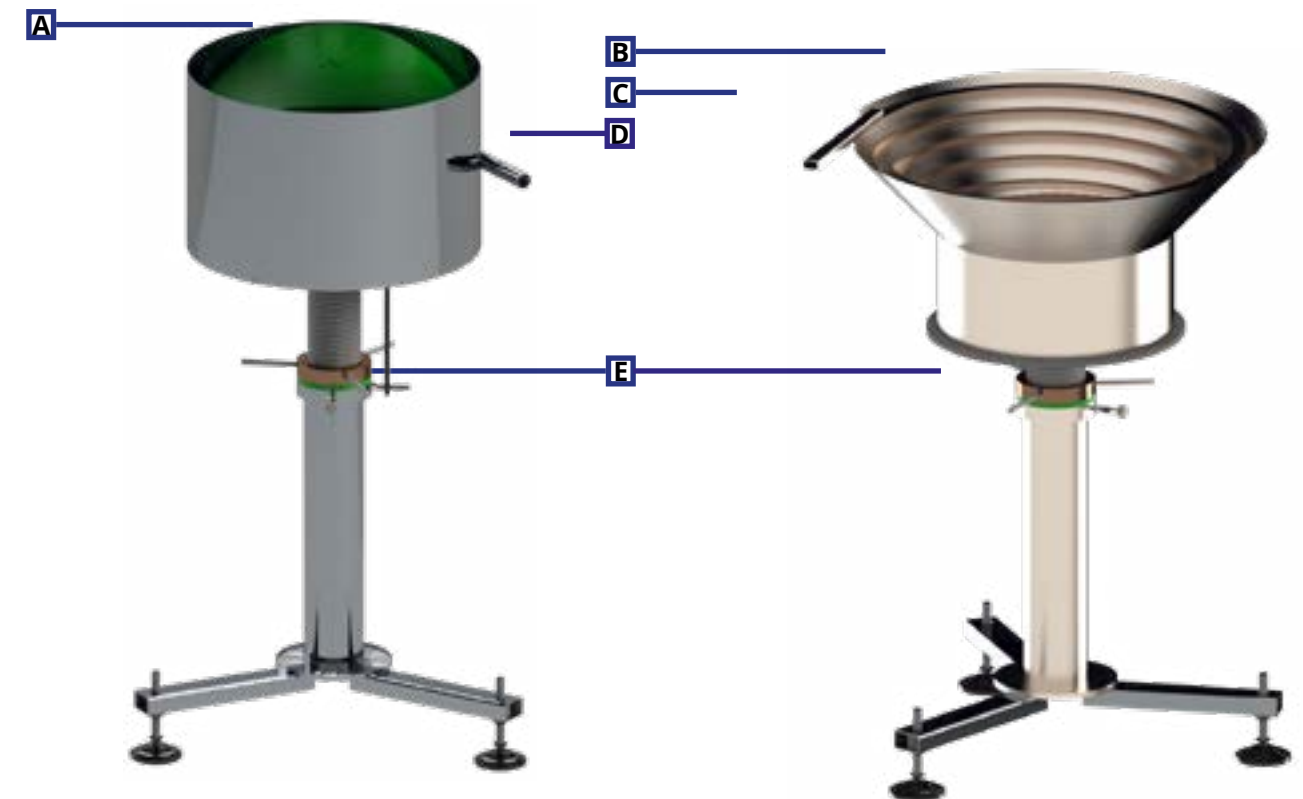


#### Attention!

Electrical and pneumatic connections must be made by persons authorized to mount and maintain the machine and use the necessary personal protective equipment. Check that there are no air leaks in the valves at the joints. Installation and adjustment of the equipment must be done when the machine is stopped and power supplies are disabled. By adjusting or adjusting machinery and equipment to prevent any danger that may come to humans or the machine before starting any relevant activity, ensure that the work area is free of unauthorized people or unnecessary tools and that there are no obstacles.

### 3.6 3.6 Cap Feeding

- Fill the selector chamber with a ball (A)
- Fill the Vibrator chamber with cover (B)
- Ensure that the canal is at the same height as the conveyor (C)
- Make the pipe connection (D)
- Adjust height (E)



## Operation

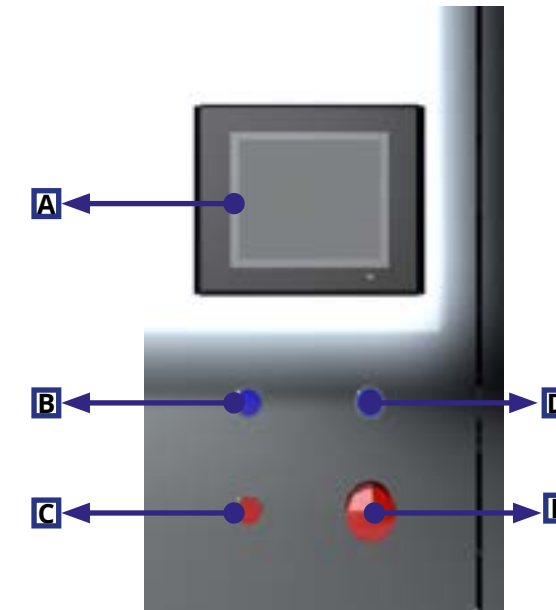


### Attention!

Unauthorized use of the machine is prohibited.

Operators and maintenance personnel carrying out approved activities on the machine should be properly trained to use personal protective equipment such as safety shoes and gloves and to avoid hazards arising from such activities.

### 4.1 Description of Control



#### (A) Operator Console

Touchable HMI that is controlled Production Information, Receipt entry, time adjustment, etc.

#### (B) Conveyor start/stop

Conveyor open/close

#### (C) Load Separator

Open/Close of the machine

#### (D) Machinery start / stop

Filling&Capping start/stop

#### (E) Emergency Fill Buton



## 4.2 Operator Console

Eklenecek / Güncellenecek

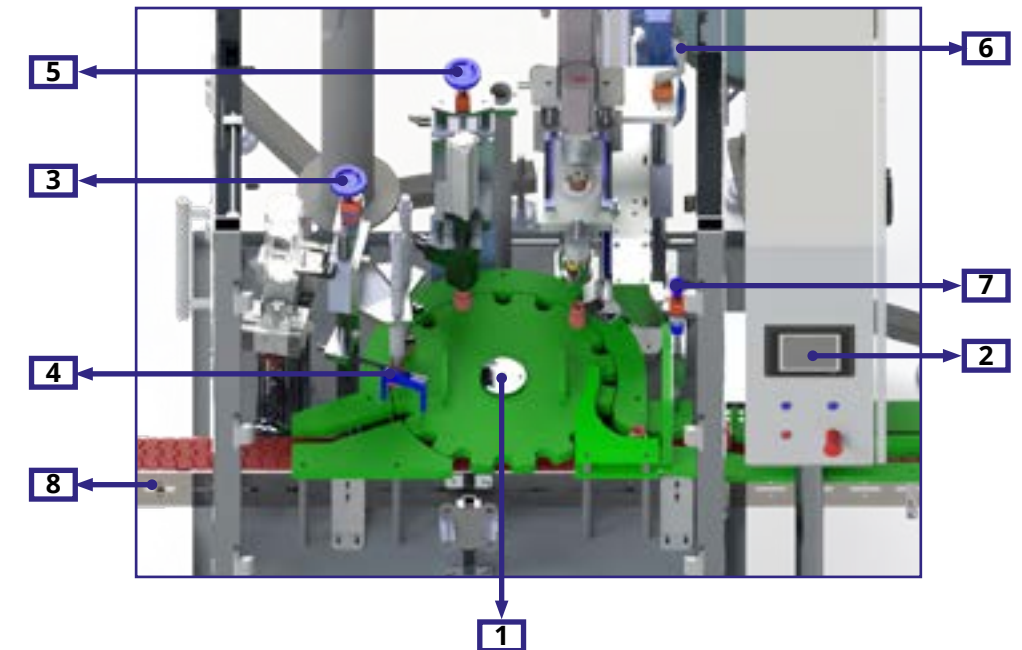
## 4.3 Format Change

### Attention!

**Make sure there are no oil stains on the work area floor. There should be no foreign objects in the machine.**

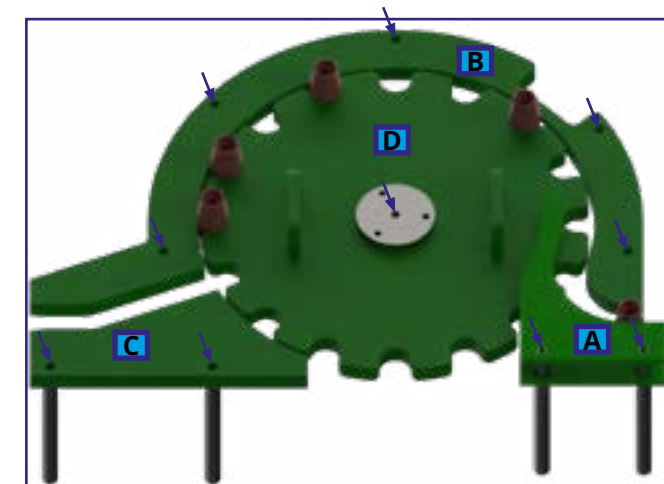
The star set for 60cc and 100cc bottles is provided alongside the machine. Contact ELEKTROMAG for Star team requirements.

Changement of Star Set.



Stop the machine, turn off the air and press the emergency stop button.

### 1) Changement of Star Set.



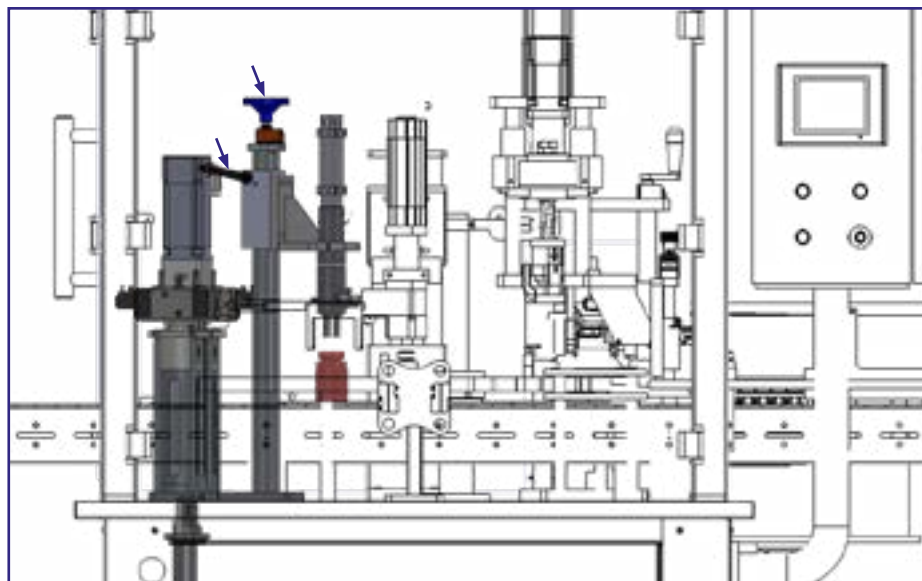
Remove the knobs of Part A-visually enclosed in a round - by turning. Remove the loose piece and lift it to a suitable location. Repeat the above process for Parts B, C, and D respectively.

Install the desired format parts D, C, B, and A by following the order. Make sure the D gear is in place.

## 2) Recipe Selection

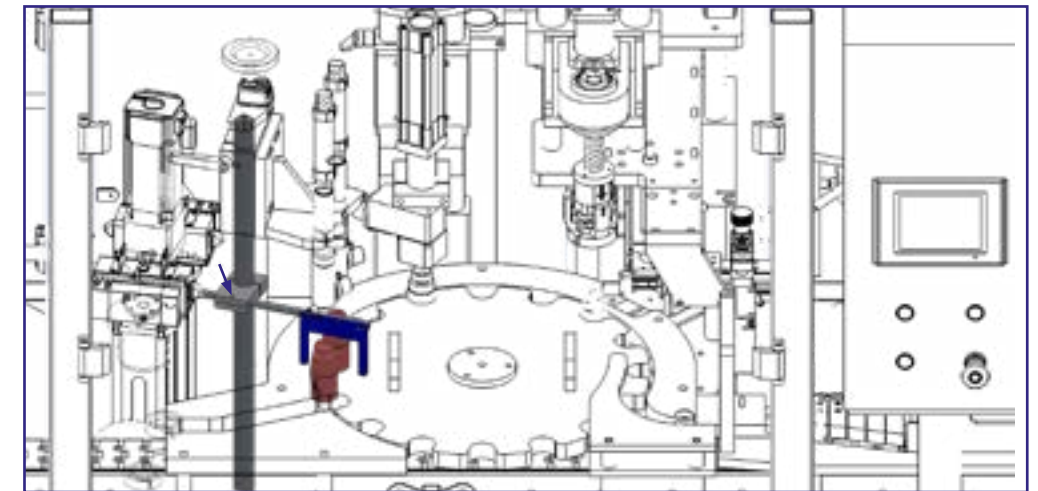
Select the format-changed recipe from the screen (see Format-changed recipe).Chapter 4.x) Click the mechanical adjustment button (see mechanical adjustment button).Chapter 4.x) The display will display the required numeral and Ruler values for the setting. These values go in a sequence with the numbering system. See the group number pasted on the machine to see which group the typed value is for.

## 3) Filling Nozzle Height Adjustment



See the mm value defined by "3" in the "mechanical adjustment" window that you opened in the HMI in the previous step. Loosen the butterfly nut marked on the picture. Turn the filling nozzle group height adjustment flywheel by checking the numeral until it reaches the desired value. Tighten the butterfly nut.

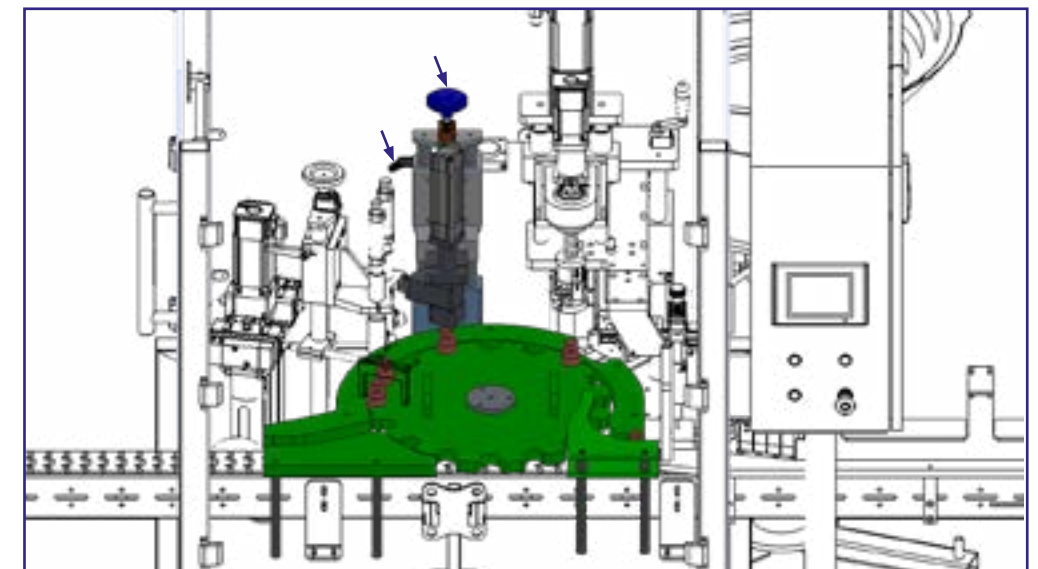
## 4) The bottle came Photocell Setting



*See the mm value defined by" 4 "in the" mechanical adjustment " window.*

5 alyan ile şekilde gösterilen imbus civatayı gevşetin ve mil üzerindeki cetveli referans yüzeye göre reçete değerine getirip imbus civatayı sıkın.

## 5) Ball Nailing Head Setting



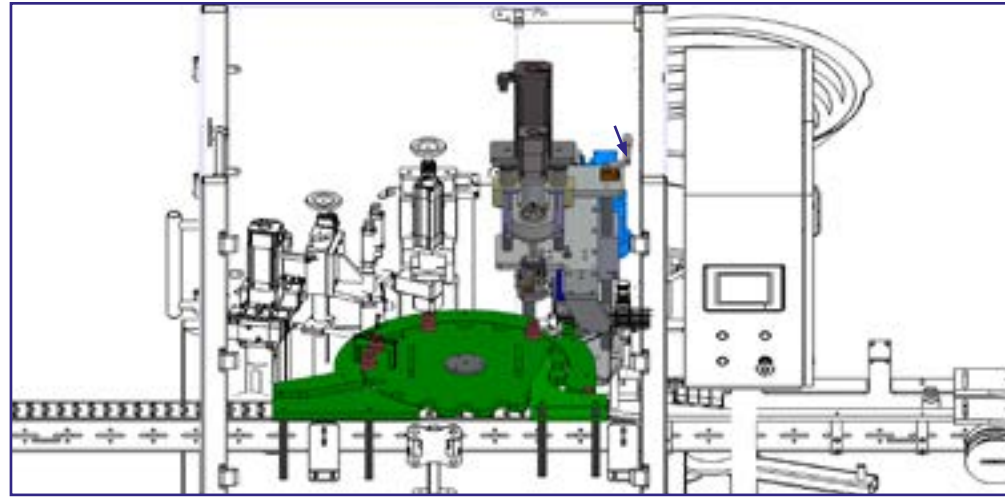
*See the mm value defined by" 5 "in the" mechanical adjustment " window.*

See the mm value defined by" 5 "in the" mechanical adjustment " window. Loosen the butterfly nut marked on the picture. Turn the head height adjustment flywheel until it reaches the desired value by checking the numeral. Tighten the butterfly nut.



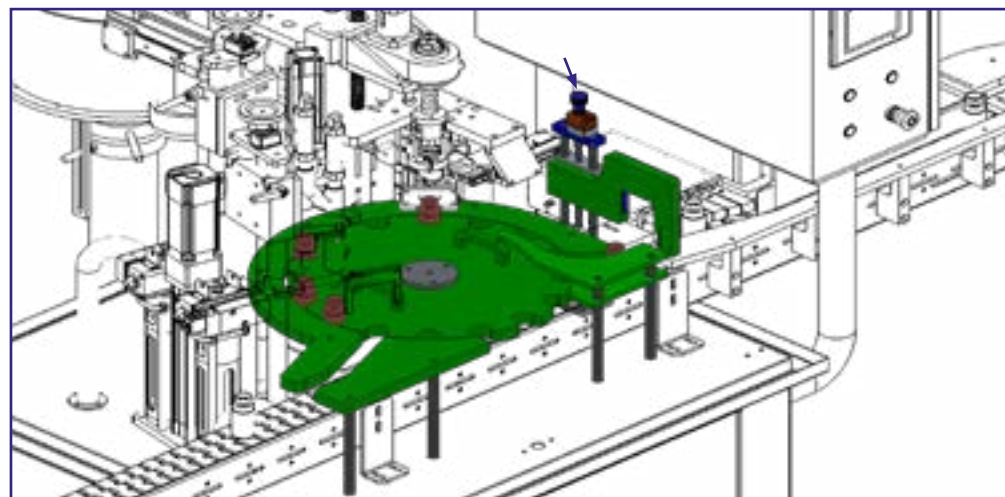


### 6) Cap Tightening Head Adjustment



"See the mm value defined by "6" in the "mechanical adjustment" window. Loosen the butterfly nut. Cover tightening head turn the height adjustment lever, controlling the numeral, until it reaches the desired value. Tighten the butterfly nut.

### 7) Cap Yes-No Sensor Height Adjustment



See the mm value defined by "7" in the "mechanical adjustment" window. Loosen the butterfly nut. Cover yes-no turn the height adjustment flywheel until it reaches the desired value by checking the numeral. Tighten the butterfly nut.

### 8) Conveyor Barrier Settings

See the mm value defined by "8" in the "mechanical adjustment" window. Loosen the conveyor barriers knob. Slide the spindle in the holder to the desired value and tighten the knob. Repeat the process for other conveyor barrier holders.

#### 4.4 Operator Placement

##### Attention!

**It is recommended to have one operator during the working cycle.**

#### 4.5 Working Cycle

##### Attention!

**The operator must ensure that there are no unauthorized persons in the work area. There should be no foreign objects on the machine.**

Switch the main switch to "I" position. The button lights that indicate the presence of voltage on the machine will be on.

Deactivate the emergency button. Access the software within your jurisdiction.

Choose a prescription.

Make sure the machine is set according to the selected recipe. Press conveyor start button (conveyor becomes active).

Press the machine start button (the machine becomes active).

The bottles coming from the conveyor enter the system and start filling, ball ramming and cap screwing process respectively. The bottles take off from the outlet conveyor for the transition to the next machine.

#### 4.6 Capless Product

Cap control sensor check the existing of capping in exit. If there is capless bottle, it will be rejected. In 3 consecutive reject cases, the machine stops itself and alarms for operator intervention.

##### Check:

Cap feed channel Vibrator ve Selector capping head

Nailing Head

Star set

Cap yes or no sensor



#### 4.7 Unexpected Electrical Fluctuations

In the event of an unexpected voltage surge, short circuit, or engine overheating, the power of the machine may be cut off.

3 phase voltage, phase order, phase loss role Possible over-voltage, low voltage, 3-phase systems and 3-or 4-wire systems during the phase error and Phase loss during the role system power cuts. Power is restored to the system when the voltage is restored and/or phase status is corrected Fuses There are a number of fuses inside the electrical board. Excessive voltage fluctuations can cause them to burn. In this case, turn off the machine by turning the main switch to the '0' position, then turn on the power panel. Using a tester, identify the burning fuse and replace it with another from the same amp.

#### Driver

There are drivers for the motors within the power board. These drivers control the engine overheating and failure conditions. In case of error or corruption, the driver will give an error. Fault detection can be done with the error code given by the driver. You can get error code information from Electromag or Omron.

#### 4.8 Alerts

In the event of failure and unexpected situations in the machine, the machine will sound an alarm. These alarms can be seen in the alarms menu on the operator screen.

| Alert                      | Status  | Solution                              |
|----------------------------|---|---------------------------------------|
| Exit Full                  | Product accumulation in output conveyor           | Çıkışı tahliye edin.                  |
| Ball Selection Cap Reduced | Cap reduction status in selector                  | Seçiciyi besleyin                     |
| Entry Empty                | No bottles on the inlet conveyor                  | Girişi besleyin.                      |
| Channel Cap Reduced        | Channel cap reduction status                      | Vibratorü besleyin                    |
| Cap Over                   | Kanalda kapak azalma durumu                       | Vibratorü besleyin                    |
| No Air                     | 4-6 bar air condition in the machine              | Hava bağlantılarını kontrol edin.     |
| Door open                  | The state of at least one of the doors being open | Kapıları kapatın.                     |
| Emergency Stop             | Acil stop basılı                                  | Deactivate the emergency stop button. |
| Eject Dolu                 | Reject unit is full                               | Empty Unit                            |

## Maintenance



#### Attention!

**Any outstanding maintenance on the machine is performed only by the manufacturer's technicians.**

**The manufacturer recommends an inspection service every two years to ensure Machine Safety.**



#### Note!

The maintenance technician must register all maintenance performed on the machine in an appropriate registry.

#### 4.9 Stopping the Machine

Press the emergency STOP button to stop all operations of the machine.



### 5.1 Information Notes

This section contains a description of the basic controls and maintenance needed to ensure the proper operation of the machine. All other interventions necessary to eliminate errors or operating problems must be done by the manufacturer specifically. For important repairs, it is recommended that you consult Elektromag, whose expert staff is at your service at all times. ELEKTROMAG has the expertise of all technological components of the machine and can perform the necessary operations quickly.

### 5.2 General Safety Rules

Maintenance activities should be carried out for this machine-as indicated below - by specialist technicians trained in a specific discipline:

Mechanical maintenance

Maintenance of electrical systems

It is the duty of the Security Authority to ensure the professionalism and competence of the above mentioned persons.

Before starting maintenance activities, the security official should:

Ensure that the workspace is free of unnecessary materials and foreign personnel.

Ensure that the equipment required by the maintenance technician is at hand and in good condition.

Check that the lighting is adequate and provide a 24 Volt mobile lamp if necessary.

Ensure that the maintenance technician is equipped with the necessary, approved, personal protective equipment for a specific procedure (gloves, protective glasses, shoes, etc.)

Make sure that the maintenance technician reads the instructions in this manual carefully and knows the operation of the machine well.

Before starting maintenance activities, the maintenance technician should:

-Disconnect the electrical and pneumatic feeders from the machine and leave them in a safe state .



#### ATTENTION!

The main switch must be in the "O" position and must be locked with a padlock to avoid unintentionally reactivating it. The key to the padlock must remain with the maintenance team.

After completion of maintenance and before allowing the machine to return to service, the maintenance technician must check the entire working cycle, operation of the safety devices, and integrity of the protection devices.



#### Attention!

**After each maintenance is complete, the security manager should check the safety status of the machine and the protection devices and confirm that they are operational.**

During maintenance, it is recommended that a warning sign prohibiting the operation of the machine be hung on the control panel. Maximum reliability and minimum maintenance costs are the result of a planned maintenance and control program that is meticulously followed throughout the machine life.

During disassembly, mark each part relative to the others to ensure that the correct parts are assembled later. Always lubricate the interior and contact surfaces with the appropriate oil before mounting the unit. Replace all seals and orings with the original parts before mounting the components.

Always check the existence of grounding connections and compliance with regulations. Before starting the machine, ensure that the maintenance personnel are at a safe distance and there are no supplies or tools left with the machine.

### 5.3 Cleaning

Before starting the inspection and maintenance procedures, all dirt on the machine should be carefully cleaned with suction sponges and suitable solvents.

Clean all stubborn dirt traces with a soft, dry cloth that leaves no thread, or using a very flexible Hairy brush.

If dirt is difficult to remove using cloths or dry brushes, use a suitable non-flammable liquid solvent with a low level of toxicity. Purchase only solvents suitable for manual use



Check the recommendations given by the manufacturer. WD-40 chemical is recommended for surface cleaning of steel, Aisi 316 and Aisi 304. It is recommended to use dyo wax polish or thin pastry for aluminium surface cleaning. Glazing is recommended for plexic material cleaning. Cleaning with compressed air is recommended.

#### Attention!

**Use cleaning solvents away from open flames and ensure good ventilation of the area. Avoid prolonged exposure of personnel to solvent fumes. Failure to comply with these rules may result in injury to staff. Do not use high pressure sprays for cleaning purposes. Do not use corrosive chemicals on aluminium surfaces for cleaning purposes.**

### 5.4 Maintenance

#### Attention!

All operations described must be performed in the main switch "O" position and locked with a padlock to prevent involuntary reactivation. The key to the padlock must remain with the maintenance team. Before starting any maintenance or cleaning process, wear appropriate protective clothing such as safety glasses and / or gloves, depending on the work to be done.

Disconnect, lock, and secure all power supplies before starting any maintenance. Put the following warning on the control panel:

MAINTENANCE IN PROGRESS DO NOT TURN ON THE POWER



Before starting operations again, check all procedures in accordance with the start procedures. After each maintenance operation, perform several manual test operations to check that the cycle is working correctly. Failure to comply with these rules can result in serious injury to staff. Cleaning personnel are prohibited from removing machine safety devices.







## 6.1 Components subject to wear and mechanical stress

### Attention!

**Components exposed to wear due to their function should be checked at very short intervals and replaced as soon as they show significant signs of wear.**

The manufacturer designed and manufactured the machine to last a reasonable amount of time, taking into account the normal working conditions of the customer. However, it is necessary to check all these components periodically very carefully.

If mechanical cracks, permanent or cyclic structural deterioration are encountered, contact the manufacturer and expert technicians who will take the necessary precautions immediately.

Electrical cables lose their insulating properties over time, especially when exposed to heat, humidity and temperature. Check its functionality with technical experts.

## Spare-Parts

# 6



### Wear-exposed components (recommended spare parts)

Contact ELEKTROMAG for spare parts request.

**Phone:** 0(282) 726 13 14

**E-mail :** W depo@elektromag.com.tr





Notes



