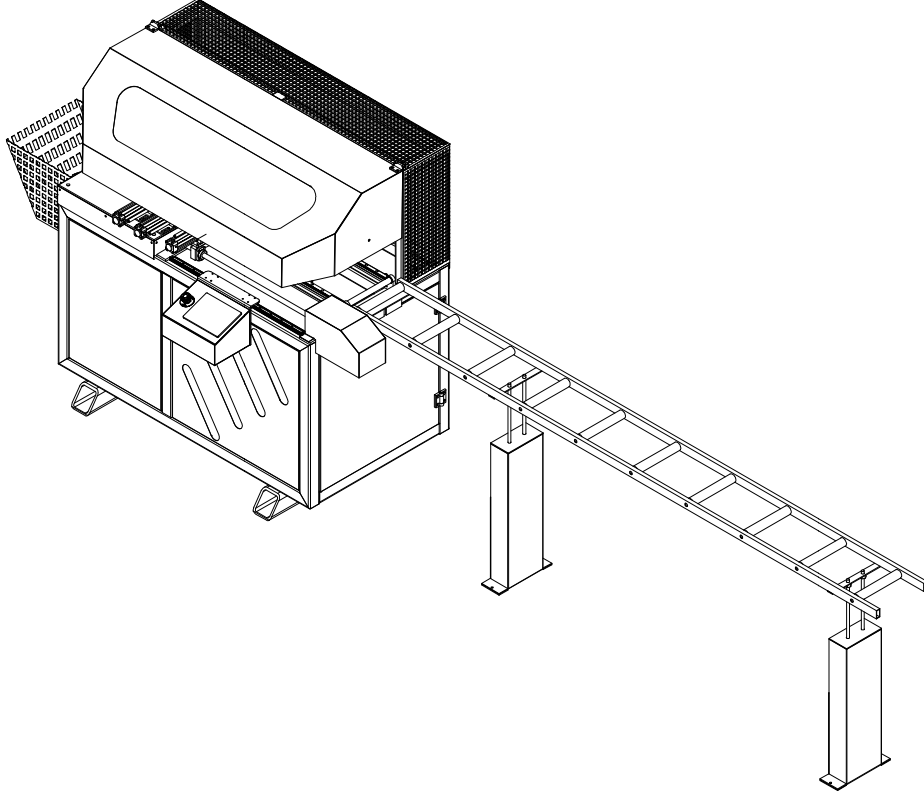




**ÖZGENÇ  
MAKİNA**



***SL 500***

**OPERATOR'S MANUAL**

AUTOMATIC ALUMINUM BLOCK CUTTING MACHINE

[www.ozgencmakina.com.tr](http://www.ozgencmakina.com.tr)

**CE**

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## GENERAL INFORMATION

This part contains general topics about the user manual.



### 1. DOCUMENT PUBLICATION INFORMATION

REVISION

0

2016

#### 1.1 After Sales Service

Address:

Nilüfer Organize Sanayi Bölgesi

113. Sk. No:23 Nilüfer

BURSA/TURKEY 16250

Contact:

PHONE: +90 224 411 07 46

FAX: +90 224 411 07 49

E-mail: info@ozgencmakina.com.tr

**NOTE:** Spare parts can be supplied by our firm whose name is written below.



The spare parts needed are supplied by M.S.K MOTOR KOMPRESÖR MAKİNA SAN.TİC.LTD.ŞTİ.

Phone: +90 224 411 07 46

Fax: +90 224 411 07 49

## 1.2 Documentation Process

The machine (OMRM 125) whose technical characteristics are described in user manual complies with CE norms. Safety measures were taken in accordance with CE norms. We can provide CE documents upon request.

Reference No/Referans Nu.: OSE – 15-0419/01

**SZUTEST TECHNICAL INSPECTION and CERTIFICATION**  
*Rely on Experience*

### ATTESTATION OF COMPLIANCE UYGUNLUK ONAYI

The technical file and test reports of the following product have been checked and found in compliance with the Parliament and Council Directive 2006/95/EC of 12 December 2006 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits and Parliament and Council Directive 2006/42/EC of 17 May 2006 on the approximation of the laws of the Member States relating to machinery.


*Teknik dosya ve test raporları incelenerek, belirtilen ürünün Avrupa Birliği Teknik Komisyonu tarafından 12 Aralık 2006 tarihinde yayınlanan 2006/95/AT Belirli Gerilim Sınırları Dahilinde Çalışmak Üzere Tasarlanmış Teçhizat ile ilgili yönetmeliği ve 17 Mayıs 2006 tarihinde yayınlanan 2006/42/AT Makina Emniyeti Yönetmeliğine uygunluğu saptanmıştır.*


<b>Applicant:</b>	<b>MSK Motor Komp. Makina San. Tic. Ltd. Sti.</b>
<i>Başvuru Sahibi:</i>	<i>Nilüfer Organize San. Böl. 113. Sok. No.23 Nilüfer, Bursa, Türkiye</i>
<b>Manufacturer:</b>	<b>MSK Motor Komp. Makina San. Tic. Ltd. Sti.</b>
<i>Üretici:</i>	<i>Nilüfer Organize San. Böl. 113. Sok. No.23 Nilüfer, Bursa, Türkiye</i>
<b>Product:</b>	<b>Cutting Machines</b>
<i>Ürün:</i>	<i>Kesim Makinaları</i>
<b>Type/Model:</b>	SL 500, OMRM105, OMRM105RF, OMRM113,
<i>Tip/Model:</i>	OMRM115, OMRM125, OMRM133, OMRM136, TURBOCUT 500
<b>Base of attestation:</b>	<b>File of technical documentation, Test report Ref. No. 15-0419/01</b>
<i>Onay Dayanağı:</i>	<i>Teknik Dokümantasyon, 15-0419/01 numaralı Test Raporu</i>

\*The referred technical file(s) shows that the product complies with standard(s) recognized as giving presumption of compliance with the essential requirements listed EU Directive(s) above. Other relevant Directives have to be observed. This attestation does not abrogate the compulsory obligation of the manufacturer to issue the declaration of conformity.


*\*Diğer ilgili direktiflere uyulmalıdır. Referans teknik dosya ile ürünün yukarıda belirtilen AT Direktiflerinin temel gereklerine uygunluğu kabul edilir. Bu onay üreticinin uygunluk beyanı düzenleme zorunluluğunu ortadan kaldırmaz.*

İstanbul, Date/Tarih 2015-04-28  
Valid to/Geçerli: 2020-04-27






page1of1



SZUTEST Teknik Kontrol ve Belgelendirme Hizmetleri Tic. Ltd. Şti.  
SZUTEST Plaza, Nispetiye Yolu Cad. Çarşı Sk. No:7 Ümraniye, İSTANBUL, TÜRKİYE  
Tel: +90 216 - 469 46 66 Faks: +90 216-469 46 67 info@szutest.com.tr | www.szutest.com.tr





ÜRETİCİ / PRODUCER	<b>M.S.K MOTOR KOMP. MAKİNA SAN. TİC. LTD. ŞTİ.</b>		
KOD / ADI / CODE / NAME	<b>SL 500</b> Otomatik Alüminyum Takoz Kesim Makinası Aluminium Corner Connector Profile Cutting Machine		
SERİ NO / SERIAL NO	<b>10D50342</b>	ÜRETİM TARİHİ / PROD. DATE	<b>2015</b>
GÜÇ / POWER	<b>4 kW</b>	VOLTAJ / VOLTAGE	<b>400 V</b>
FREKANS / FREQUENCY	<b>50 Hz</b>	AKIM / CURRENT	<b>5 A</b>
HAVA BASINCI / AIR PRESSURE	<b>6-8 Bar</b>	HAVA TÜKETİMİ / AIR CONSUMPTION	<b>30 lt / min</b>
AĞIRLIK / WEIGHT	<b>310 kg</b>	 <b>M. S. K.</b> MOTOR KOMP. MAKİNA SAN. TİC. LTD. ŞTİ.	
GENİŞLİK / WIDTH	<b>1200 mm</b>		
BOY / LENGTH	<b>2000 mm</b>		
YÜKSEKLİK / HEIGHT	<b>1600 mm</b>		
MENŞE-İ / MADE IN	<b>TÜRKİYE</b>		
		NOSAB 113. Sk. No:23 Nilüfer / BURSA Tel: +90 224 411 07 45 Pbx Fax: +90 224 411 07 49	

## 1.2 The Procedures to Be Followed

Warning symbols and words in this manual should be taken into consideration.



This warning sign is to protect worker's health and security against dangers.

	There is burning risk of your hand during contact, take precautions.
 <b>Caution!</b>	This is a warning sign to prevent machine damage.
 <b>Note</b>	This is intended to warn for using machine properties in a correct way.
 <b>CHECK</b>	This includes warning messages required for checking operators.

## 2. SCOPE OF THE USER MANUAL

The relevant user manual is a document which should be read by the users before operating the machine. It contains all basic information about the machine utilization. In this document, there is also information about the long term and efficient use of the machine and the necessary basic maintenance. By means of this manual, the user can use the soft and mechanical key elements correctly. Although some of the equipment mounted on the machine is different in terms of shape, systematics of operation does not change.

## 3. Machine Description

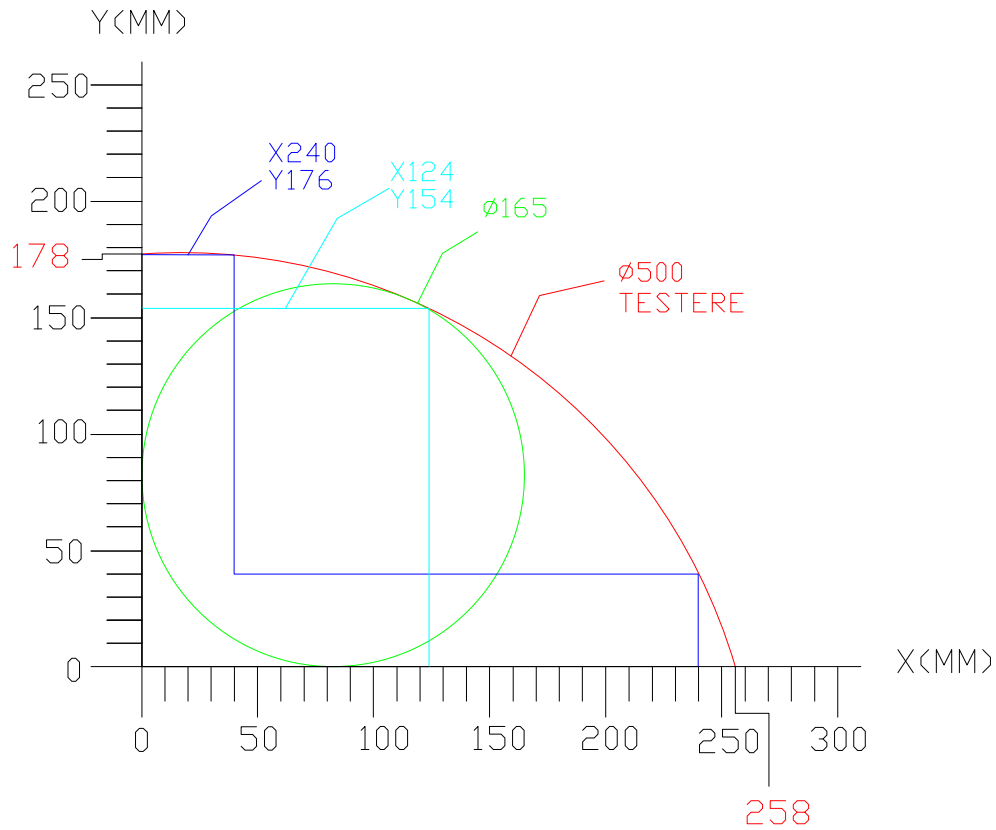
Designed for aluminum block profiles cutting

- PLC control system
- Double clamp
- Servo engine driving system
- 3 x Horizontal clasp & 3 x Vertical clasp (pneumatic)
- Automatic jet cooling
- With 3m roller conveyor line
- Automatic mechanical lubrication system
- Automatic slicing capability
- Maximum speed and precision with servo engine system
- +/- 0.1 mm cutting precision
- Cutting list creation capability
- Protection cover system with safety key
- Touchscreen
- 500 mm diamond tip circle saw

### Options:

There is no option for SL 500 Aluminum block cutting machine.

### 3.1 Machine Cutting Capacity



---

**+/- 0.1 mm cutting precision**

**500mm diamond tip saw**

**Automatic slicing capability**

---



### 3.2 Machine Specifications

<b>Operating Voltage</b>	400	Volt (V)
<b>Total Drawn Power</b>	5	Kilowatt (Kw)
<b>Drawn Current</b>	5	Amper (A)

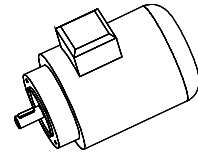


<b>Operating Pressure</b>	6-8	BAR
<b>Total Air Consumption Amount</b>	30	Lt/Min



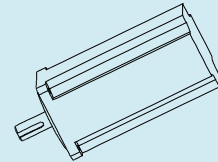
#### Saw Engine

<b>Saw Engine Power</b>	4	Kilowatt (Kw)
<b>Engine Revolution</b>	2810	RPM



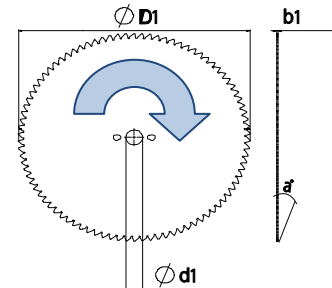
#### Servo Engine

<b>Servo Engine Power</b>	800	Watt (W)
<b>Drawn Current</b>	4,83	Amper (A)
<b>Operating Voltajı</b>	200	Volt (V)



#### Saw Sizes

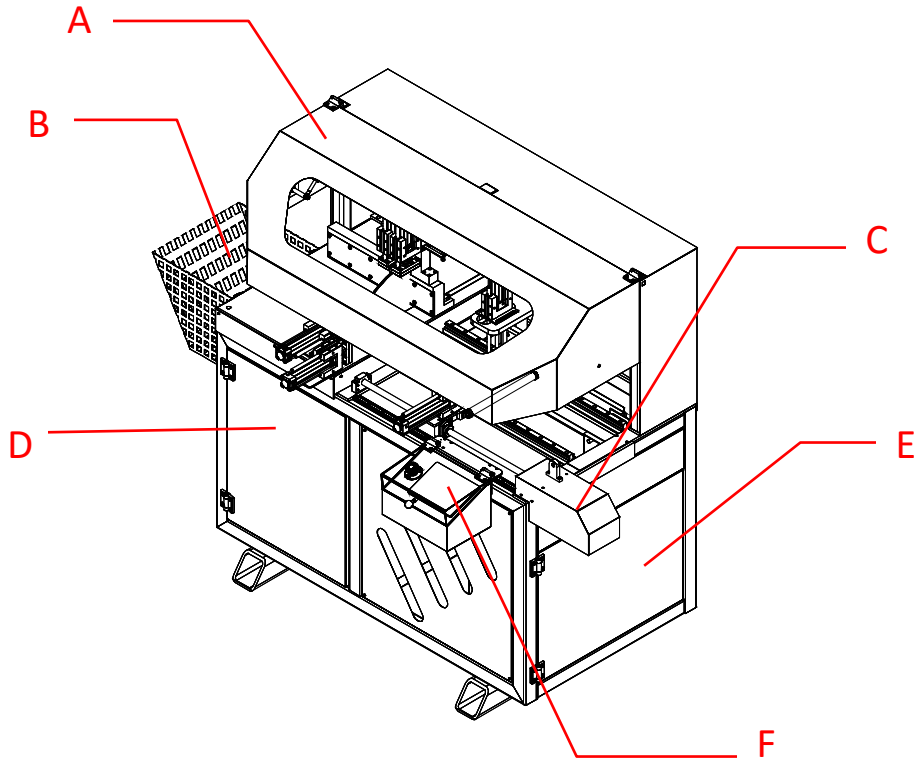
<b>ØD1</b>	500	mm
<b>Ød1</b>	30	mm
<b>b1(saw thickness)</b>	4	mm
<b>Tooth Number</b>	120	



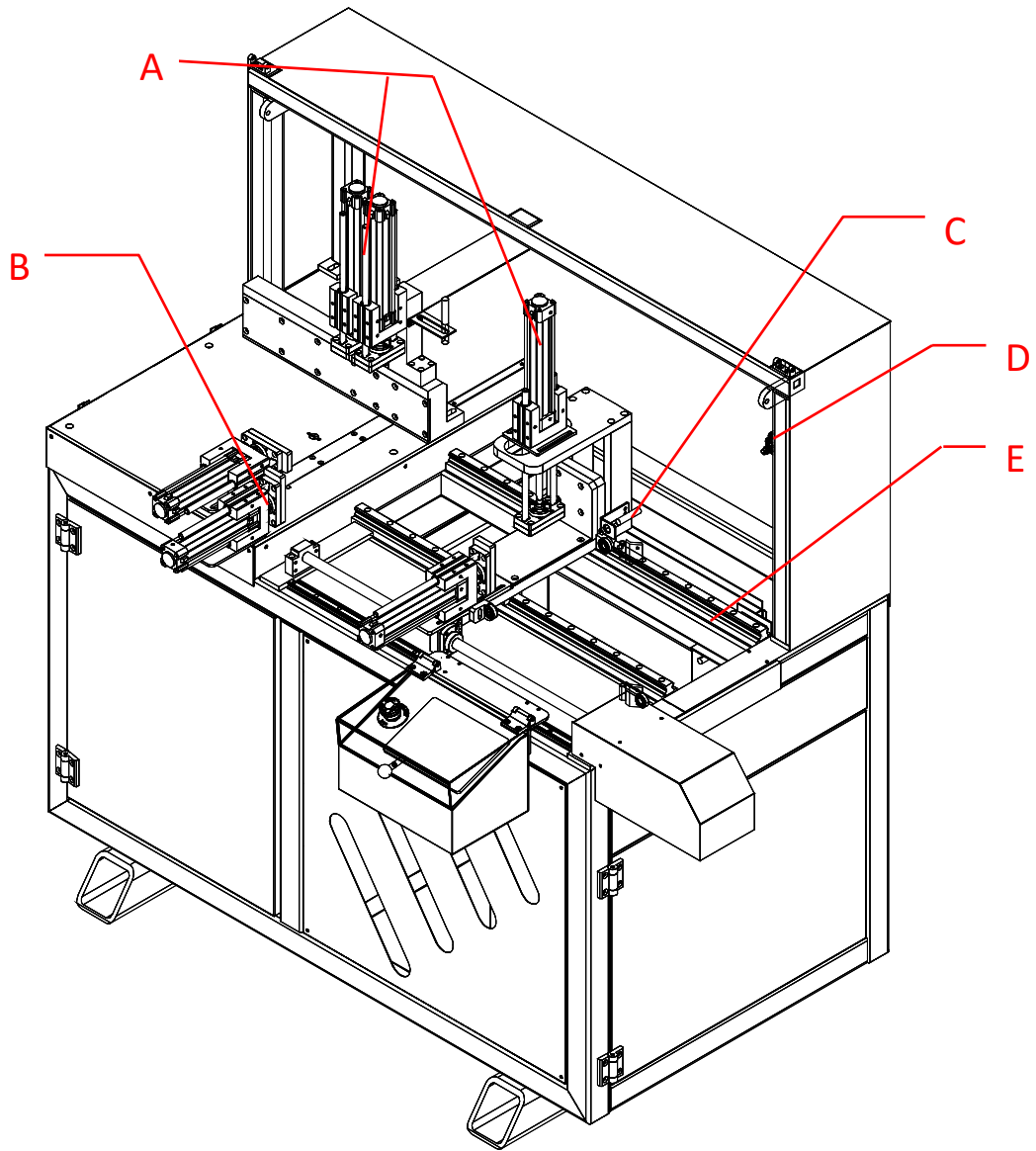
<b>Machine Weight</b>	400	Kilogram (Kg)
-----------------------	-----	---------------



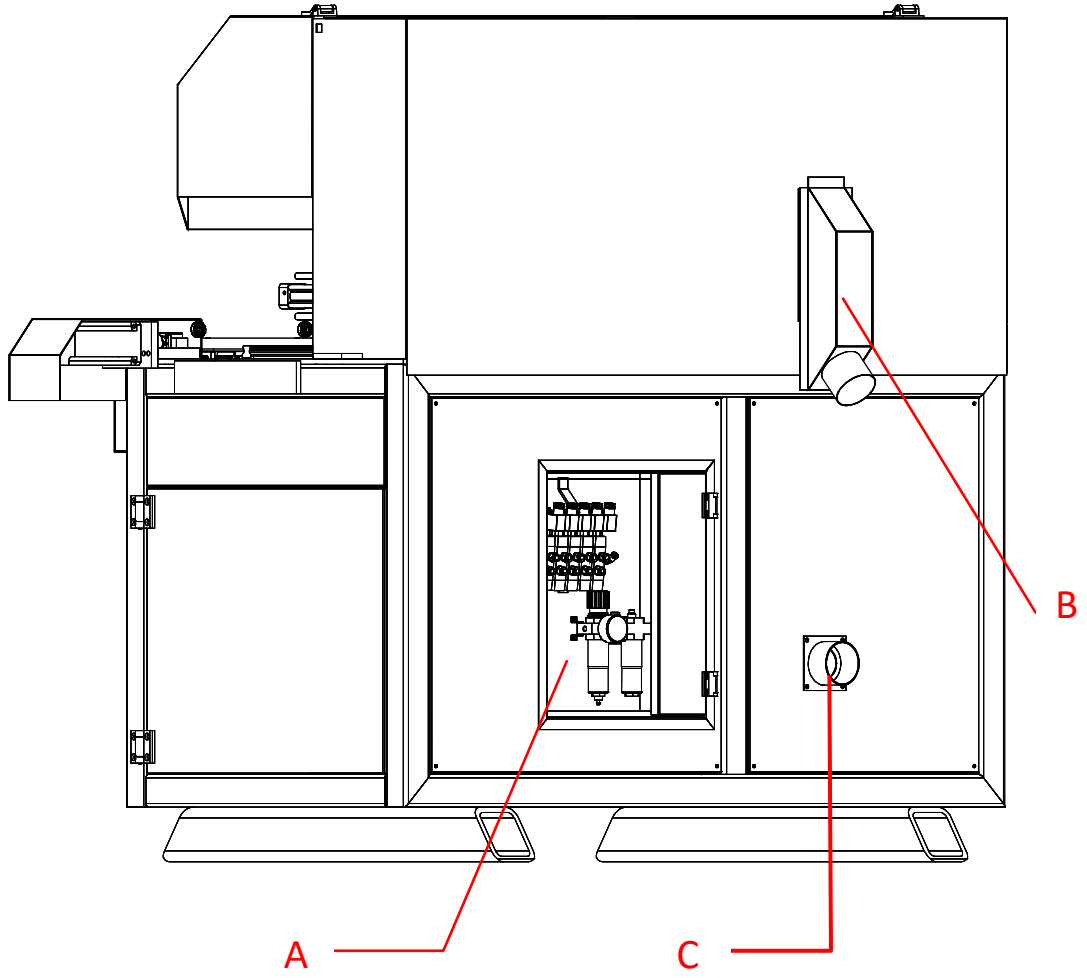
## 4. Machine Layout and Unit Structure



- |    |                               |
|----|-------------------------------|
| A- | Protective Cover              |
| B- | Block Collection Reservoir    |
| C- | Servo Engine Protective Cover |
| D- | Saw Cabinet                   |
| E- | Electrical Board Cabinet      |
| F- | User Control Panel            |

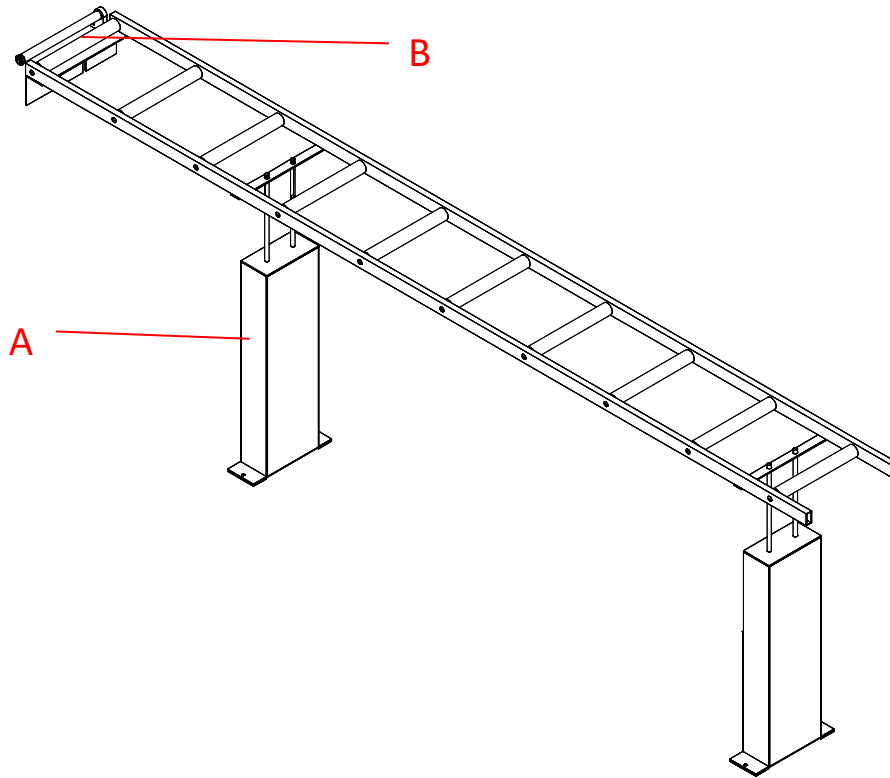


- 
- A- Upper Profile Thrust/Fixation Pistons
  - B- Side Profile Thrust/Fixation Pistons
  - C- Profile Quantity Determination Sensor
  - D- Cover Security Switch
  - E- Dual Slide Group
-



- 
- A- Pneumatic Adjustment Panel
  - B- Shaving Discharge Reservoir
  - C- Air Circulation Hole
-

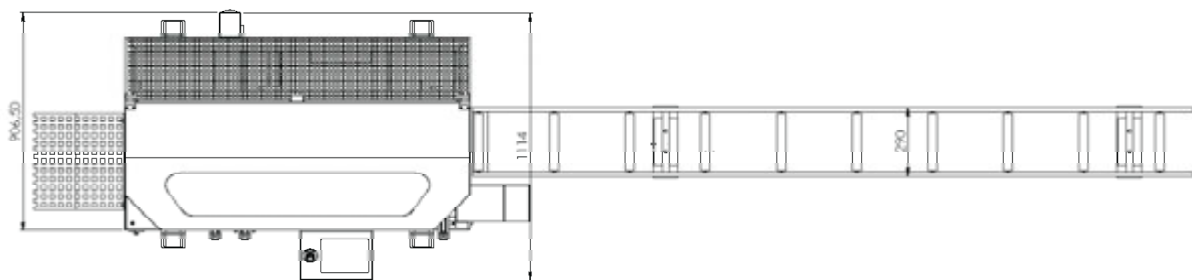
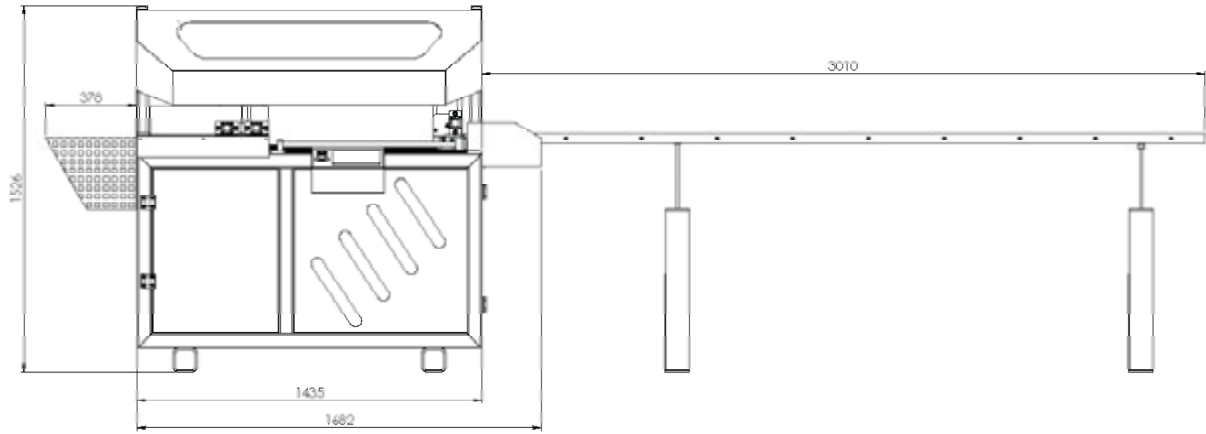
## Structure of Conveyor



A- Conveyor Feet

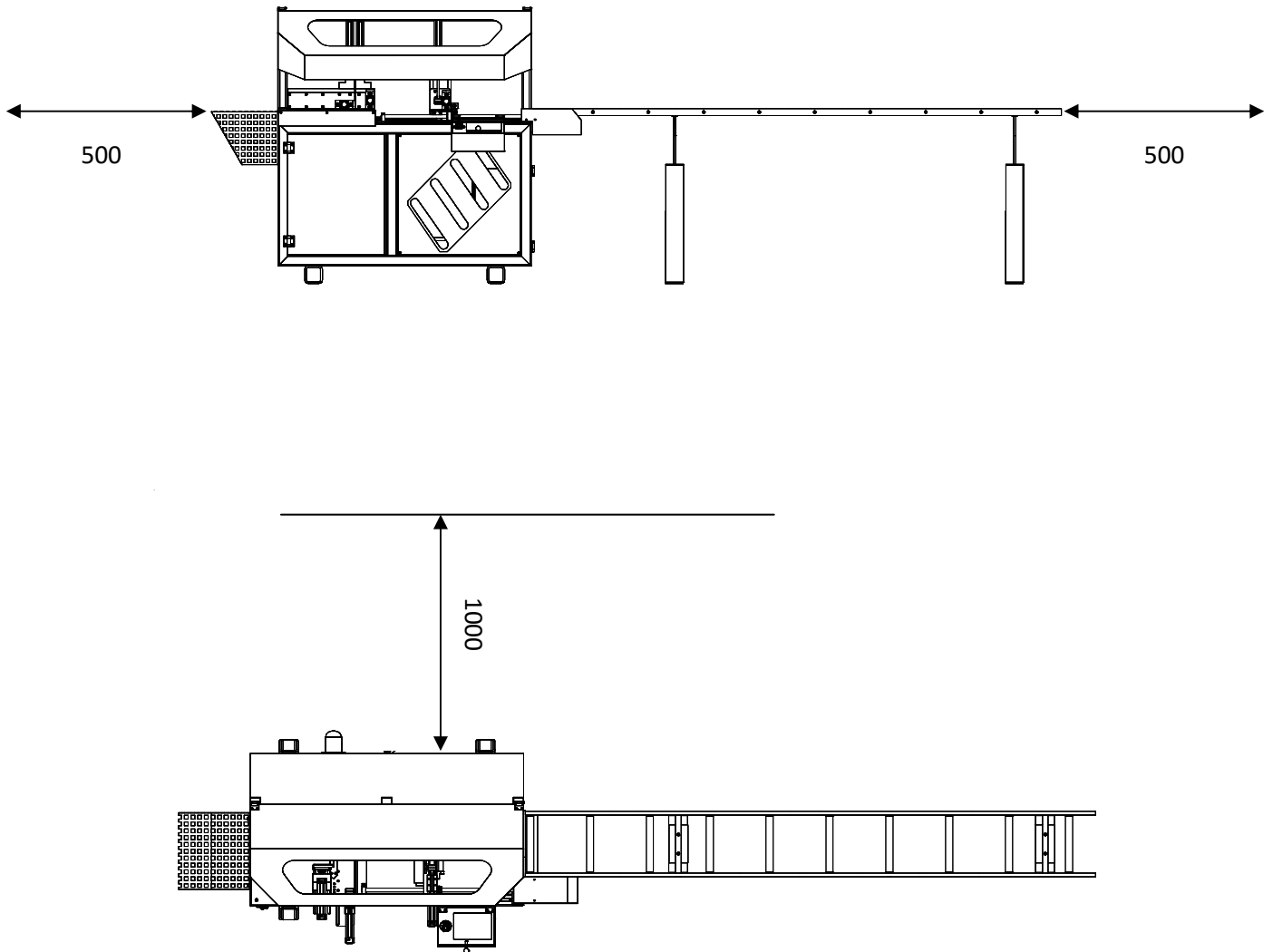
B- Machine Connection Plate

## 4.1 General Measurements of the Machine



## 4.2 Machine Layout

During machine layout, consider the freedom of movement required for profile cutting operation. Also, consider appropriate distances for opening machine panel covers. Consider the following measurements in order to work safely.



## 5. WORK SAFETY and PRECAUTIONS

### 5.1 Safety Switch

This section contains the necessary information for the safe use of the machine and the general equipment.

### 5.2 Safety Measures and Accident Prevention

The necessary warnings about the accidents and measures are given in the user manual. However, the user is supposed to warn and direct the workplace staff to ensure observance of the work safety. Workplace officers should make the necessary follow-ups during implementation. The operator should have full knowledge of the safety rules about the relevant machine before starting to work. The safety elements which were available during the delivery of the machine should be maintained completely.

Producing company shall not be responsible for the accidents and security gaps arising from the processes which do not comply with the terms of use and safety of the machine. The risks in this context shall affect the warranty terms as well. Producing company shall not be responsible for the accidents and breakdowns arising from non-observance of the instructions for the machine and equipment. The critical parts of the machine and equipment that require replacement due to wear, etc. should be replaced immediately.

Operator is responsible for the subjects such as usage, cleaning, adjustment, operating, maintenance, etc.

### 5.3 Machine Usage and Wrong Uses

SL 500 Aluminum block cutting machine is only produced for profile cutting operation. The user is responsible for the machine breakdowns and work safety gaps arising from machining during cutting operations excluding profile cutting.



## 5.4 General Safety Rules

It is appropriate for SL 500 Aluminum block cutting machine to be used by one operator. If the operator has attention deficit because of drugs, alcohol and medicine, he should never work. The operator should check the machine and its components before operating. During the routine maintenance, main switch should be absolutely closed and it should be ensured that the electricity and pneumatic are off. If there is hydropneumatic equipment, the pressure should be relieved. Do not change the equipment and safety components on the machine. Do not remove the safety device and the barriers. The operator should have clothing which is suitable for the machine and production conditions. The operator should not wear belongings such as ring, bracelet, etc. which may lead to accidents. If the personnel has long hair, he should wear hair net. The installation should comply with the training given by the specialists of M.S.K. company.

## 5.5 Maintenance Measures for Safety

All maintenance work should be carried out by the competent technicians having full knowledge about the periodical technique. Use the appropriate equipment defined in the terms of machine maintenance.

## 5.6 Electricity Safety Rules



In case of non-observance of the following safety rules, severe occupational accidents and injuries may occur. The staff who shall perform electrical interferences and maintenance should be engineer. All of the works should be performed with the isolated proper equipment. Take the safety signs into consideration and do not remove them. Any supplementation and removal cannot be made on the tension line. Use the original spare parts and equipment. Any change of the circuits is not allowed. Turn off the electrical equipment before cleaning. Make sure that the main cabin and cabinet doors are closed. In case of fire, cut off the power from the main switch. Use the appropriate fire fighting equipment.



**Note:** Locks of the equipment boards should be kept by the authorized staff.

## 5.7 Lighting Conditions

The operator should use the equipment having the appropriate lighting values for safety and health. Min. light level for using the machine is determined as 300 lux. Review EN 12464-1 Lighting Norm for detailed technical information.

## 5.8 Wiring

All of the necessary wiring should be set properly in accordance with the machine. The needs such as electric energy, pneumatic needs, etc. should have proper values and the compatible equipment should be placed in the layout area. IEC 64-8 norm should be taken into consideration while installing the electrical equipment.

Note: If there is power supply in the system, it should have circuit breaker 0.3A. Start-up processes should be carried out by the competent staff.



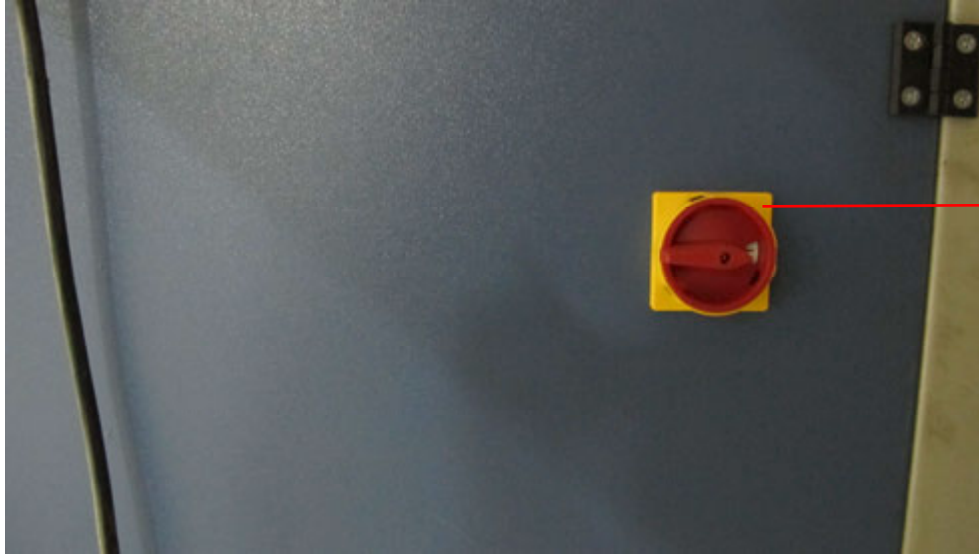
## 5.9 Grounding Conditions

Grounding system should comply with the terms of standard IEC 64-8. Low-voltage equipment should comply with the norm (IEC64; IEC364). Grounding processes should be carried out considering the voltage values. A, marked point is grounding input.

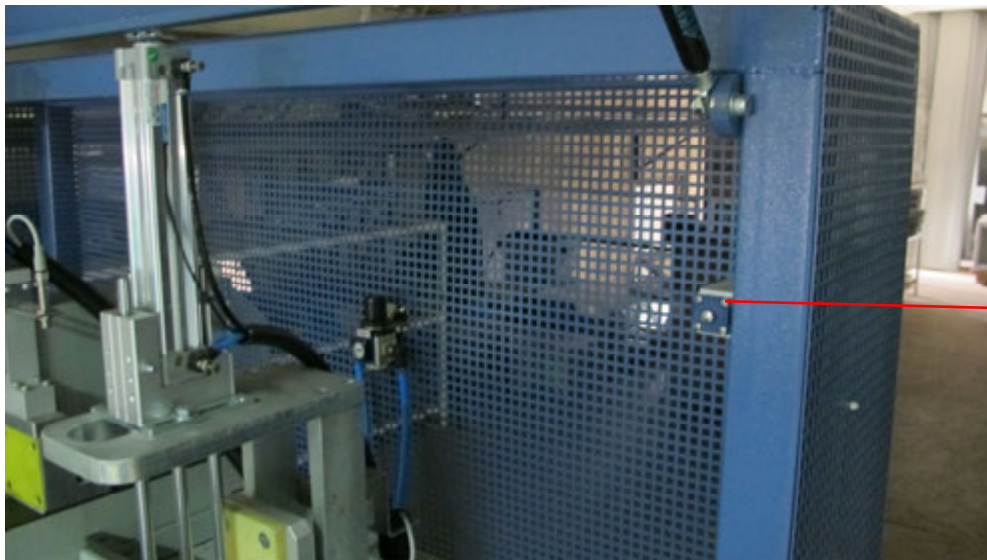
## 6. Safety Equipment



**DANGER!** It is absolutely forbidden to eliminate the measures taken for the machine and the devices and deactivate them.



Main Switch









Cover Security  
Switch



Emergency/Stop  
Button

## 6.1 Risk Areas and Warnings

In addition to the safety measures taken for the machine with the equipment, extra visual safety measures in the working site should be followed.

	<ul style="list-style-type: none"> <li>• Contact with moving parts can cause electric shock.</li> <li>• Do not use sharp, damaging objects on protective isolations.</li> <li>• Do not use pointed objects that can penetrate into protective isolation.</li> <li>• Turn off electric feed before performing any maintenance and adjustments.</li> </ul>
	<ul style="list-style-type: none"> <li>• Equipment over the machine which moves during operation and which is used to fix the part, should be considered.</li> <li>• We should hold both of our hands away from the machine during operation.</li> <li>• Do not perform any adjustment and maintenance during machine's operation.</li> <li>• Do not manually hold moving parts.</li> </ul>
	<ul style="list-style-type: none"> <li>• Do not put your hands over the area with hot equipment.</li> <li>• Do not hold hot equipment.</li> <li>• Use protective gloves while replacing hot equipment.</li> <li>• Do not extend your hand to sections like heating plate etc.</li> </ul>
	<ul style="list-style-type: none"> <li>• Do not put your hand into the sections with squeezing danger.</li> <li>• Do not put your hands on to machine, except buttons.</li> <li>• Take safety precautions during machine maintenance and cleaning.</li> <li>• Take precautions against cutting during router and drill bit replacements.</li> </ul>
<p>WARNING</p> 	<ul style="list-style-type: none"> <li>• There is no noise violence which might be harmful for health.</li> </ul>
	<ul style="list-style-type: none"> <li>• Read the proper user manual carefully. Try to understand safety warnings.</li> <li>• Keep user manual in a visible place.</li> </ul>

## 6.2 Noise Propagation



Machine units do not propagate noise which may affect the workers adversely.

## 6.3 Disposal of Harmful Substances

If the substances such as grease, cooling agents, etc. are used, apply the procedures written on their labels.

## 7. Machine Start-Up

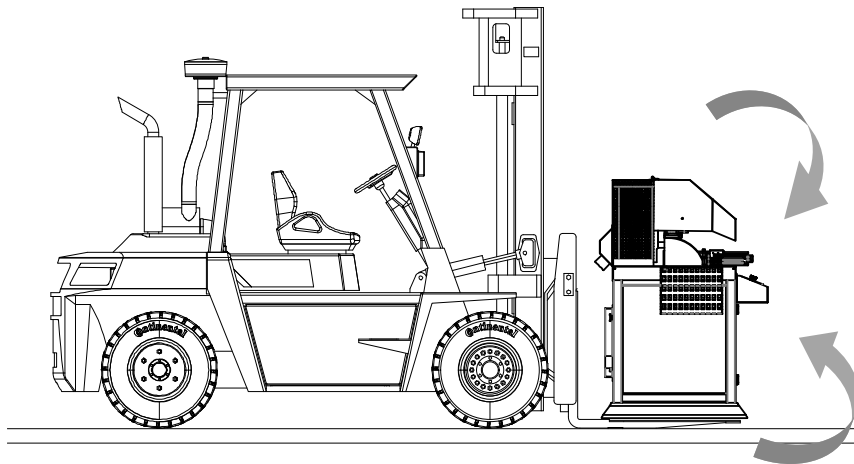
### 7.1 Domestic Transportation

Our machinery is packaged specially according to criteria of dimensions and weight. The main objective of the packaging process is to deliver the product without any damage. Some parts can be sent as disassembled within the scope of the contract with the customer. Regarding all detailed criteria, contracts are made between the parties before the transportation.

The handling methods applied during the loading should comply with the mechanical structure and weight of the machine. Otherwise, the machine can be damaged.

**Note:** No equipment is detached during our domestic transportations. We advise you to use forklift. Our company is not responsible for the accidents.!

If there are moving units, they are secured by fixing during transportation.



**NOTE:**

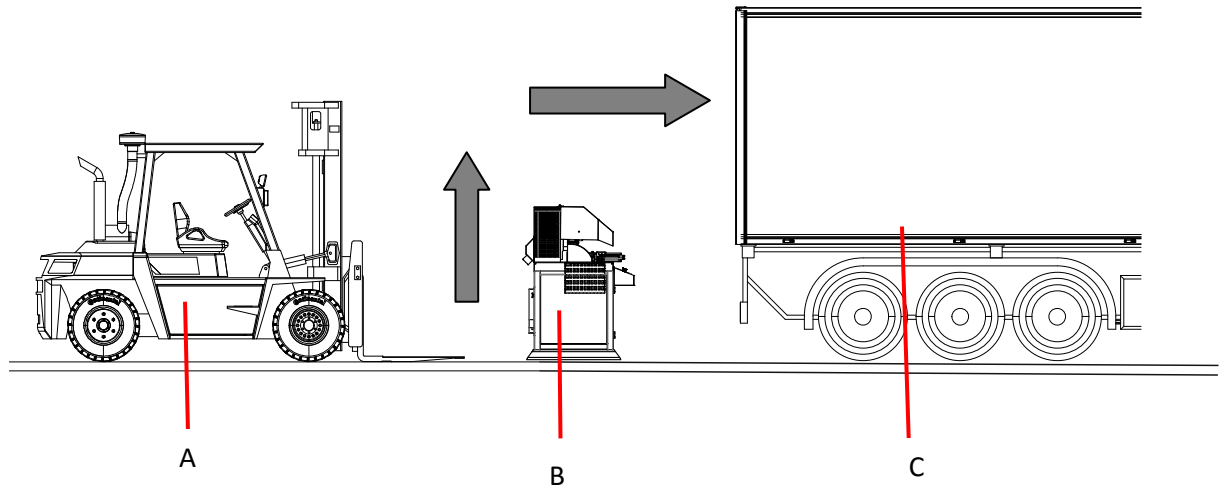


Take precautions during handling against the risks that may appear because of center of gravity.

**Important NOTE:**



Please remember to detach protective block which is used during transportation when layout is completed!



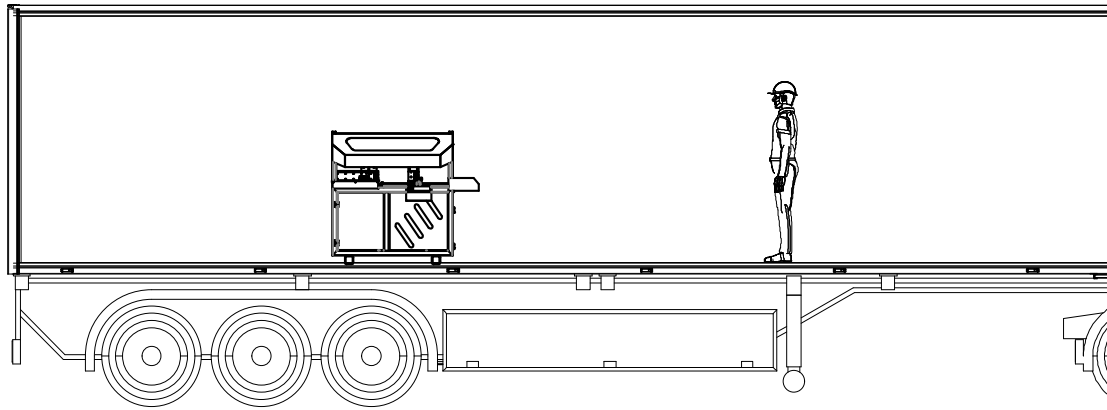
---

A- Forklift

B- Machine

C- Transportation Vehicle

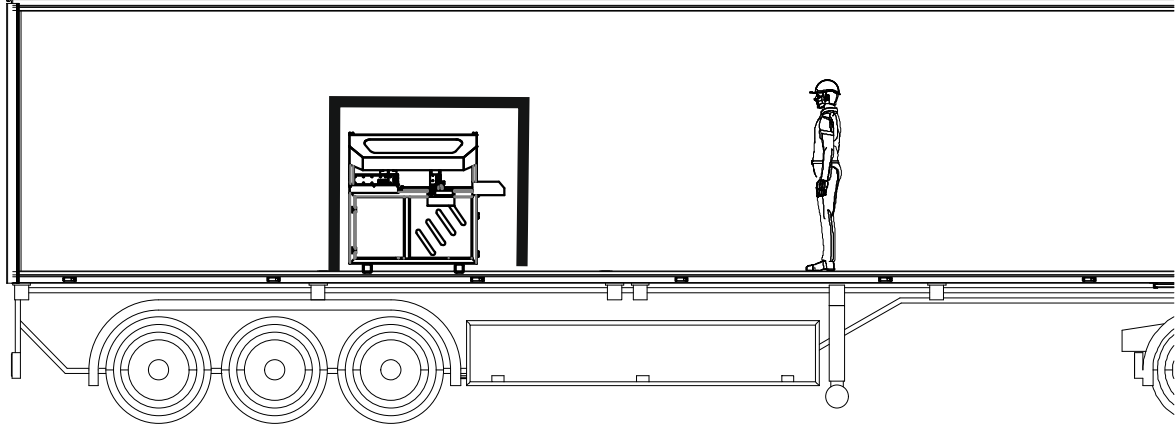
---



Take necessary precautions when machine is taking over the vehicle. Anti-slip precautions are taken. Raising operation should be done without damaging the body during lowering the machine . Machine feet, which is removed during transportation, should be reinstalled.

## 7.2 Overseas Transportation

Our machines which are sent overseas, are packed with wooden boxes proportional to machine dimensions. Some peripheral equipment which can be damages during packaging are removed and packaged separately.



## 7.3 Breakdown Check for the Transportation

The machine should be checked against any breakdown and damage that may occur during the transportation. In case of any problem, please inform the carrier.

## 8. Machine Installation

All of the processes about (loading and unloading) and assembly, wiring, start-up and performance tests (if required) are carried out by the export staff of M.S.K. company. Such processes are evaluated according to machine and applied for the products found necessary. Several processes such as setting of the parts and equipment, etc. should be performed before starting to use the machine. The required processes are described below.

### 8.1 Placing the Machine

As the machine is placed in the designated area in the facility, predefined hook lifting points are used. The carrying procedures exemplified above can be applied. Other procedures may harm the machine.

### 8.2 Fixing on the Ground

The machine should be placed considering the maintenance and running clearances. Behind and side spaces maintenance operations etc. recommended spaces are given above. M12x50 mm expansion bolt was determined for ground connection.



### 8.3 Start-up Preparation

The moving parts of the machine are generally cleaned with special rust preventive oils. Electrical and pneumatic connections are made to ensure the complete functioning of the machine.

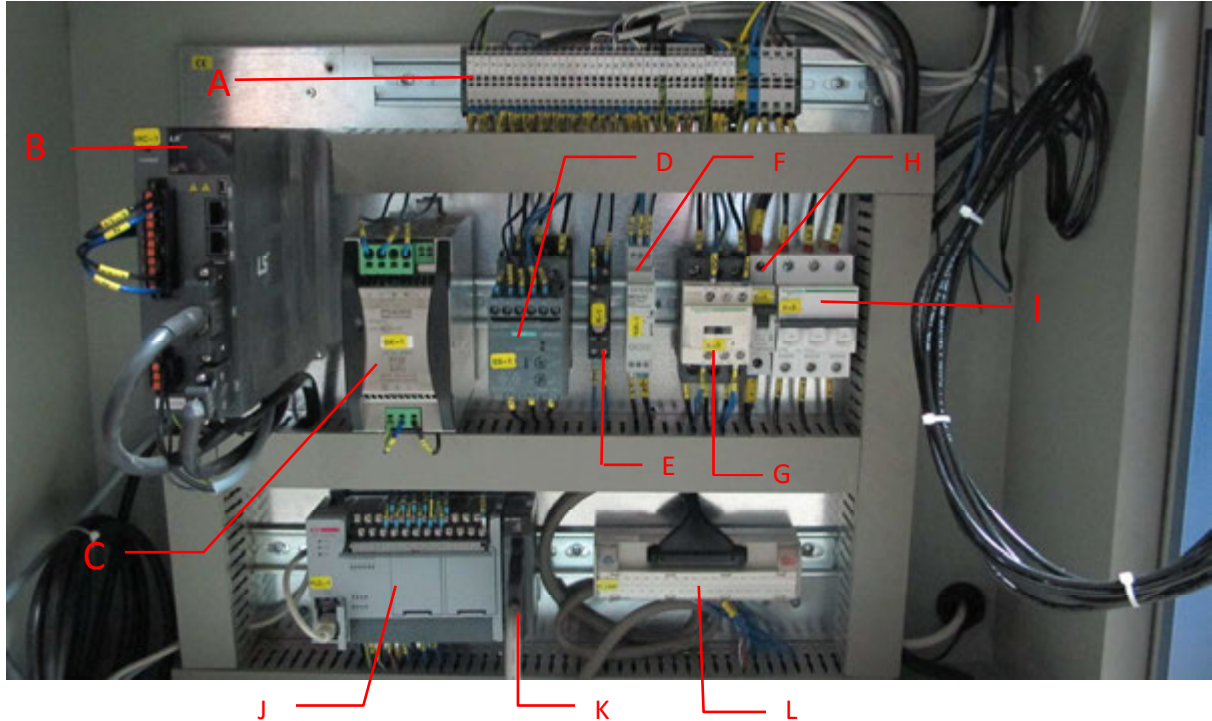
### 8.4 Electrical Connections

VOLT	400 V
HERTZ	50 Hz
CURRENT	5 A
POLE	3P+N+E



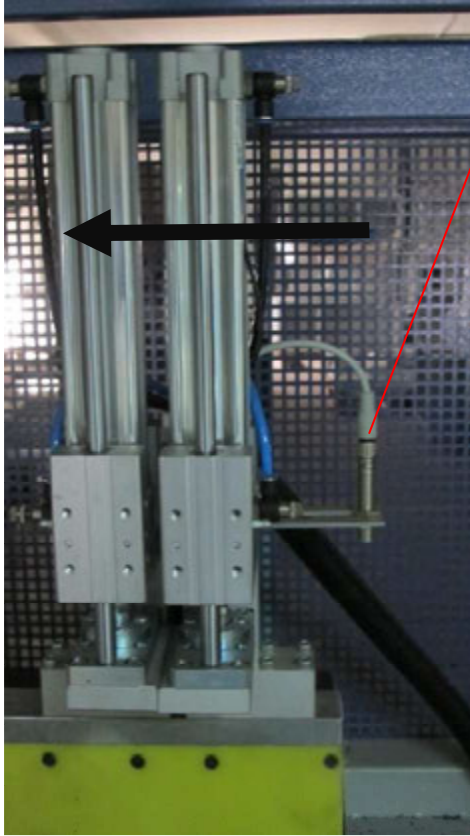
## 8.5 Electrical Panel Diagram and Equipment Structure

This electrical panel diagram is only given for the layout of elements within panel. For detailed electrical diagram, see APPENDIX chapter.



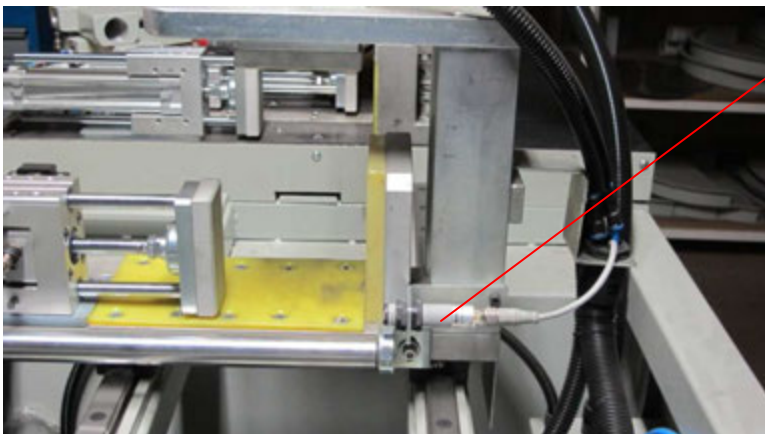
- |    |                        |
|----|------------------------|
| A- | Connector Group        |
| B- | Servo Driver           |
| C- | Power Supply           |
| D- | Slow Starter           |
| E- | Relay                  |
| F- | Phase Protection Relay |
| G- | Contactor              |
| H- | 6A Fuse                |
| I- | 3 X 16 A Fuse          |
| J- | PLC (DRLO9U)           |
| K- | Axis Module            |
| L- | Connector Group        |

## 8.6 Sensors Used in Machine and Their Duties



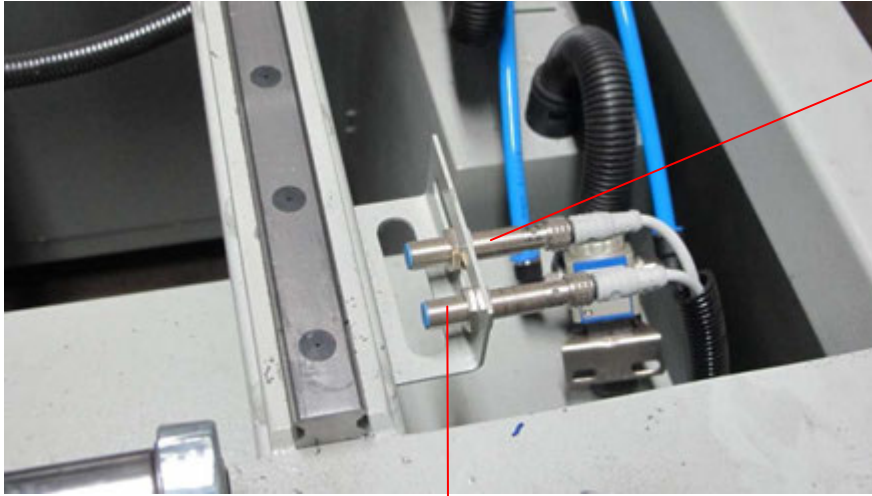
Forward limit sensor

Determines max. point that slide can come



Material yes-no sensor

Determines whether the cut profile is finished



Back limit sensor

Determines min. point  
that slide can come

Reset sensor

## 8.7 Pneumatic Connections

For healthy machine operation, 6 bar air is necessary. Check manometer indicator.



Connect main air hose  
from compressor into  
this input.

### Caution:

Pay attention that the air supply should be dry!

Solenoid valve group controls the movement of the present pneumatic equipment. When needed, manual movements can be via the valve.

## 9. Machine Use

### 9.1 Machine Start/Stop

Before operating the machine, check if there is any foreign object on the machine.

### 9.2 Opening the Machine



Turn the main switch clockwise until it fits.

Check if EMERGENCY/STOP button on the manual control panel is at the back.

**(EMERGENCY STOP BUTTON SHOULD BE AT THE BACK!!)**

### 9.3 Control List

**Main switch:** Main switch cuts of the electricity from the main line. Emergency stop on operator panel only stops operation.

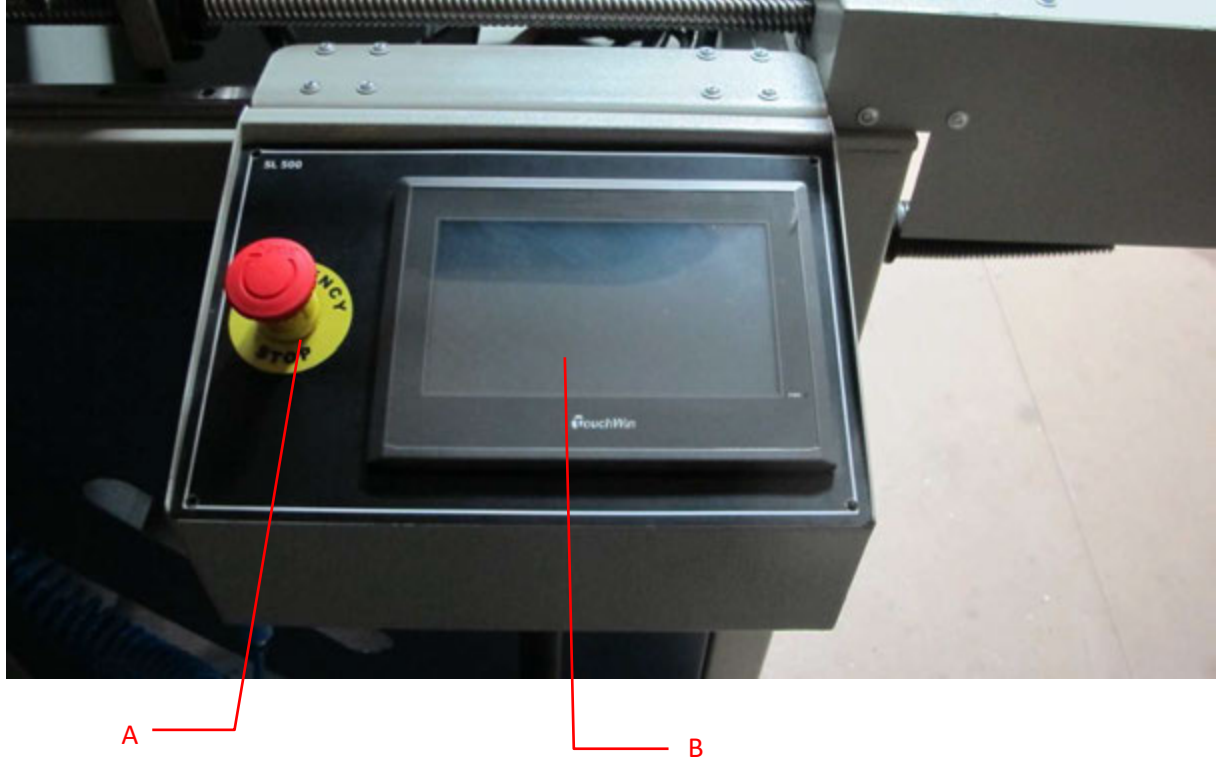


- Contact with moving parts can cause electric shock.
- Do not use sharp, damaging objects on protective isolations.
- Do not use pointed objects that can penetrate into protective isolation.
- Turn off electric feed before performing any maintenance and adjustments.

#### Important Note:

If machine is moved for any reason, when it is put into the socket on its moved place, it might not operate; because, phases on socket are inverted, saws of machine are protected against rolling in inverted phase with an inverted phase sequence relay. A qualified electrician changes the place of phases on machine plug and machine is operated.

## 9.4 Control Panel and Specifications

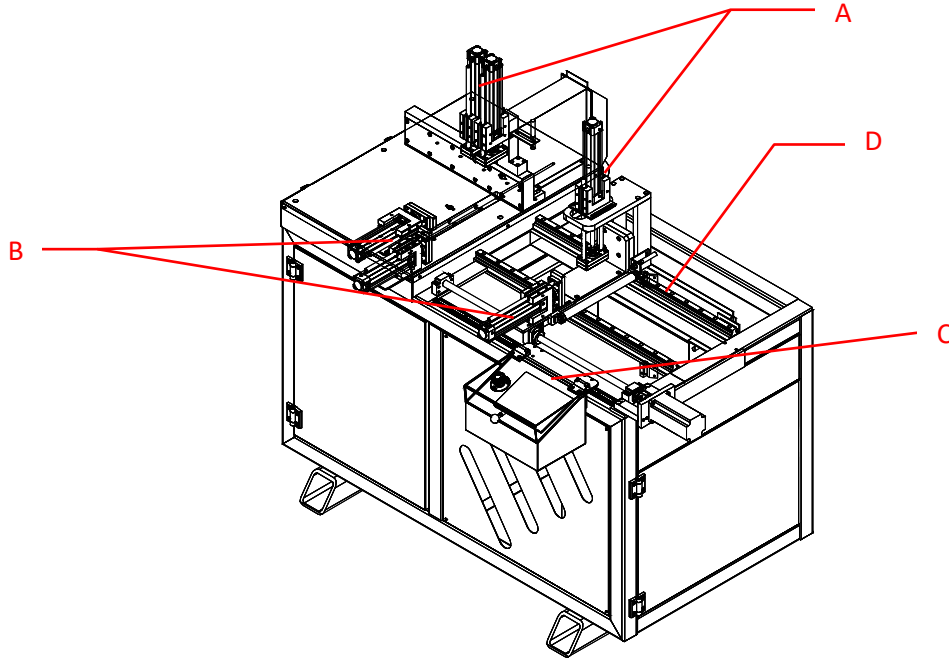


A- EMERGENCY/STOP Button

B- Touchscreen Operator User Panel



## 9.5 Moving Equipment Over Machine

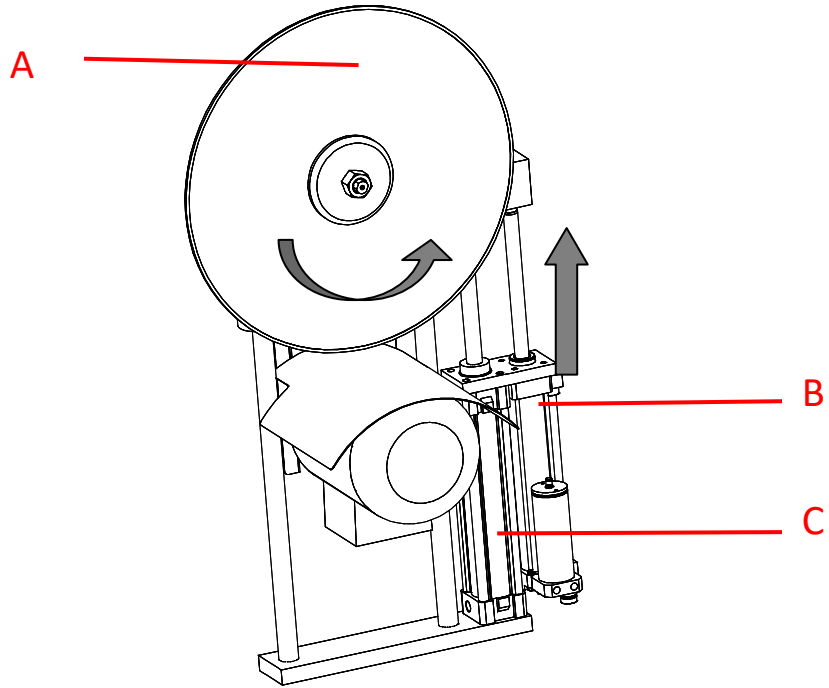


A- Upper Profile Thrust/Fixation Pistons

B- Side Profile Thrust/Fixation Pistons

C- User with Slide Control Panel

D- Mobile Double Slide Group



A- Saw

B- Hydro-Pneumatic Piston

C- Pneumatic Piston

## 9.6 SL 500 Aluminum Block Cutting and Machine Settings

### Machine Usage Steps

#### -Screen Menu

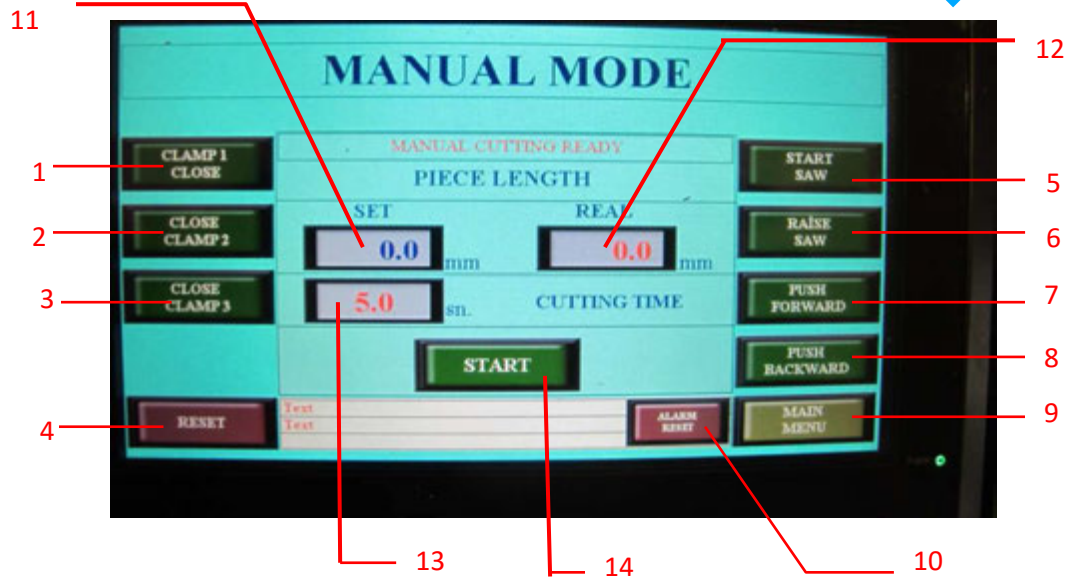


- A. It is used for single part cutting by entering a single measurement
- B. Recipe that is prepared for program coding is in process and it is used for automatic cutting
- C. Prescriptions to be used in automatic operation are written
- D. There are calibration, saw tolerance and machine speed settings

## -Use of Manual Operation Mode



For manual operation mode,  
operator clicks on Main Menu >  
Manual operation mode in  
touchscreen control panel



- 1- Piston on the left side of saw, that holds profile to be cut.
- 2- Piston on the right side of saw, that holds profile to be cut.
- 3- Piston which fixes profile in forward
- 4- Sends driving mechanism to zero position
- 5- Operates the saw
- 6- Raises saw into upwards, when command is turned off, it sends it to downwards again
- 7- Moves the driving mechanism into forward
- 8- Moves the driving mechanism into back
- 9- Switches to main menu
- 10- When machine does not operate due to alarm, alarm is reset after troubleshooting and it is restarted
- 11- Size of the part that is wanted to be cut, is entered
- 12- Shows instant position of servo engine
- 13- Time for the saw to go up, depending on profile type to be cut
- 14- Starts cutting process based on the given commands



A

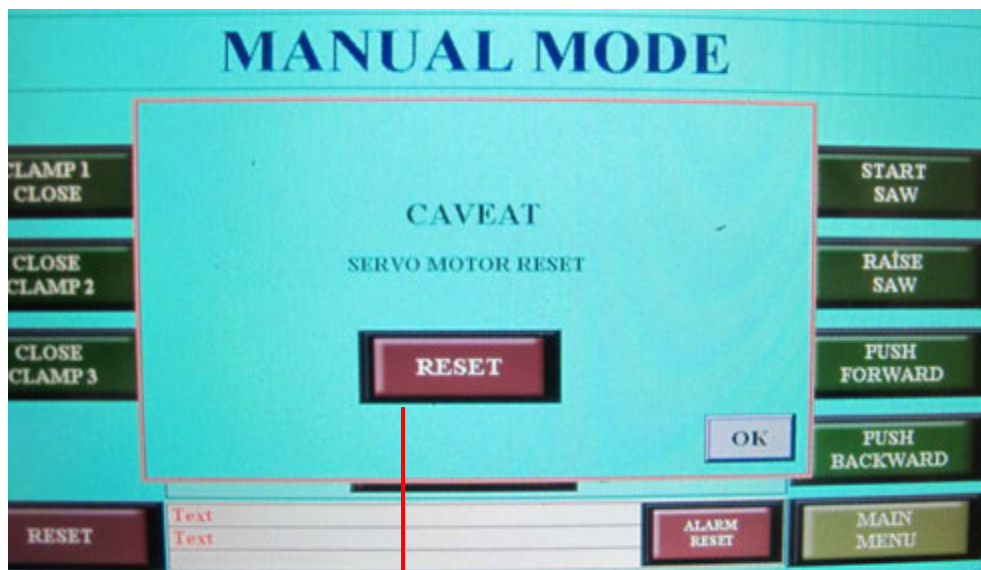
B

C

A- Thrust Piston 1

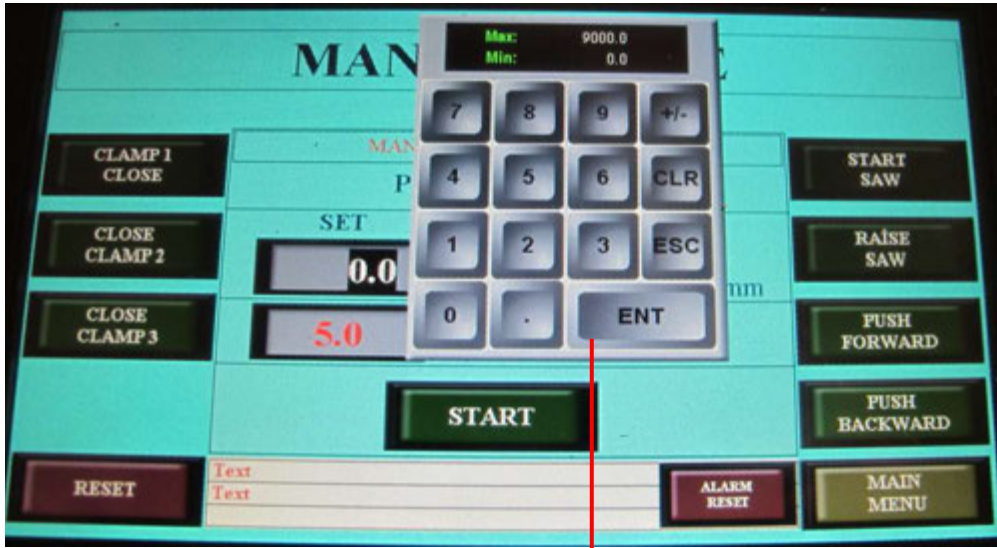
B- Thrust Piston 2

C- Thrust Piston 3



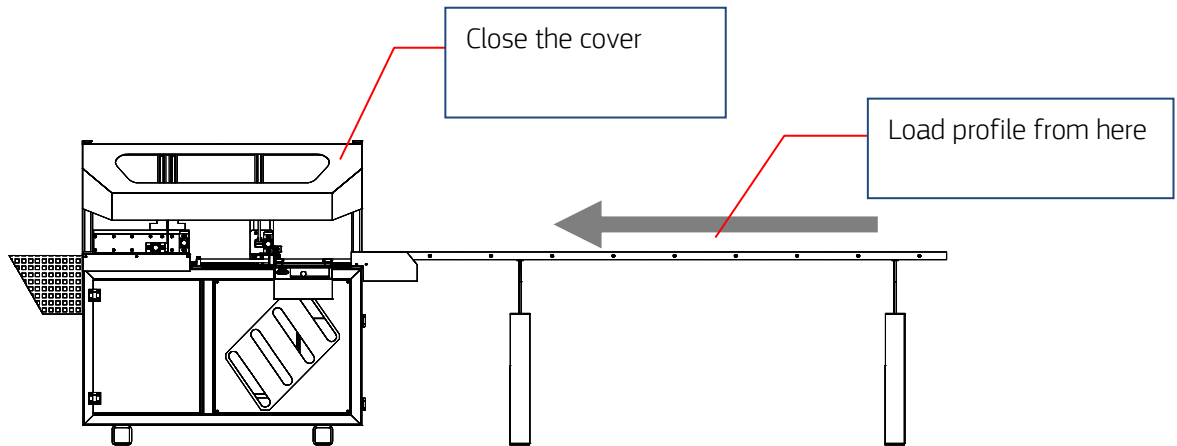
Sends driving mechanism to  
zero position

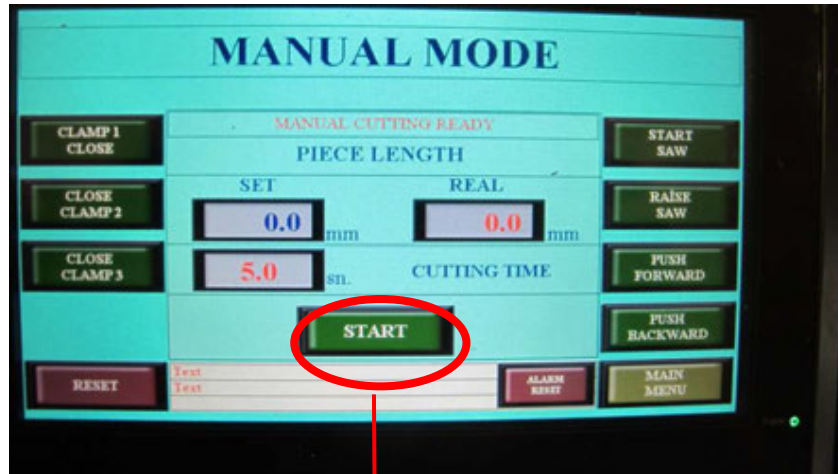




Used to enter numeric values that will be used in profile cutting operation

After the required settings are entered by operator, profiles to be cut are loaded and then “START” button on user panel is pressed.





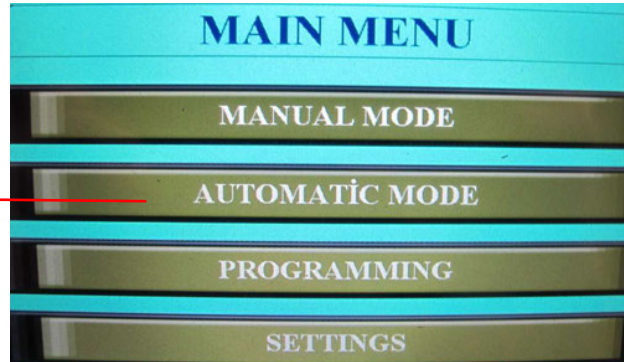
After the required settings are entered and profile is loaded, START button is pressed



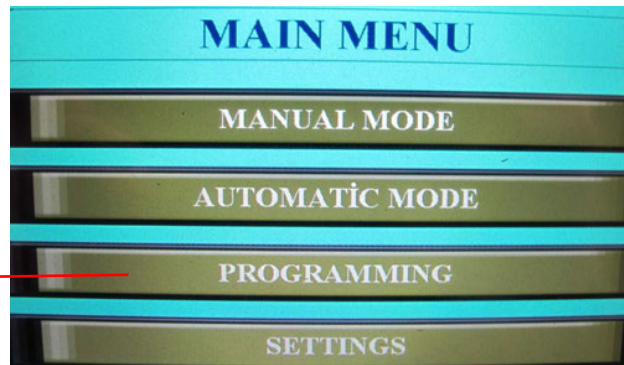
## -Use of Automatic Operation Mode

To enter automatic operation mode, press AUTOMATIC OPERATING MODE located under MAIN MENU.

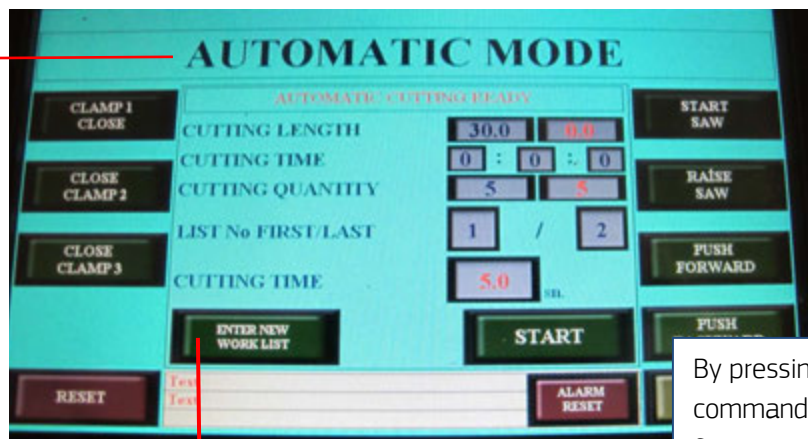
Main  
Menu>Automatic  
operation mode  
button is pressed



By pressing Program  
coding mode, RECIPE  
PAGE with the type,  
quantity and cutting sizes  
of the profiles to be cut,  
appears.



Automatic  
operation mode  
screen



By pressing load new work order  
command, RECIPE PAGE appears  
for entering the cutting size and  
quantity of the parts to be cut.

Same page also appears in  
PROGRAM CODING mode.

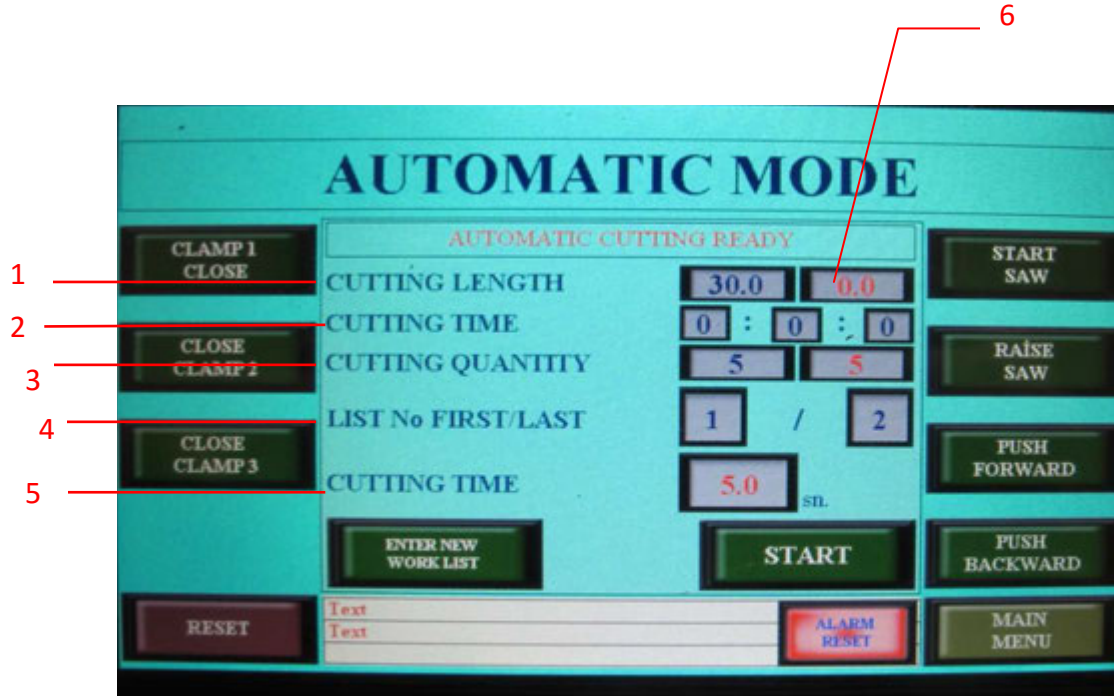


A B C

- A. Types of Parts To Be Cut
- B. Length of part types to be cut in mm
- C. Quantity number of part types to be cut

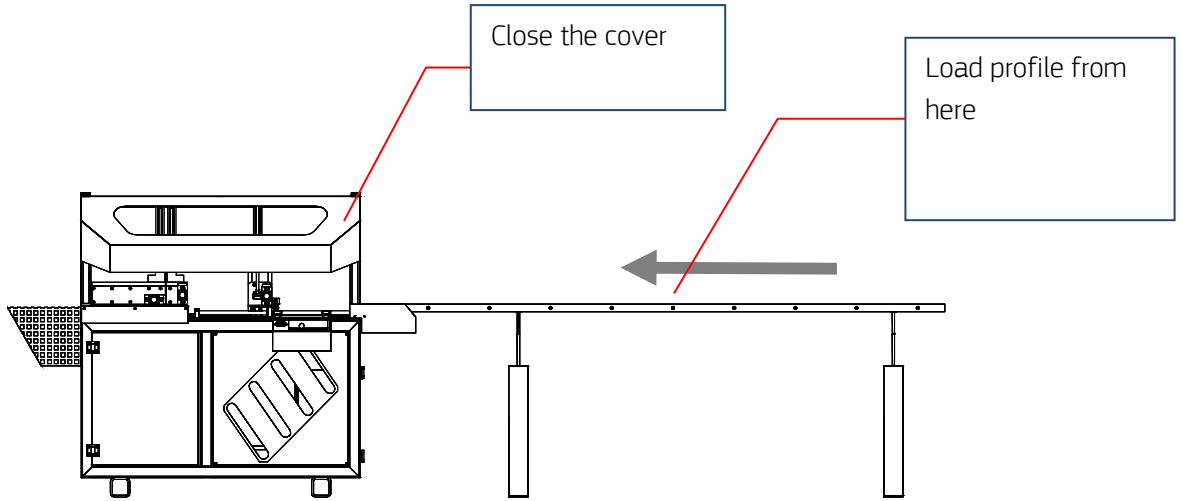
After entering profile type lengths and quantity number to be cut, press MAIN MENU button on right bottom.



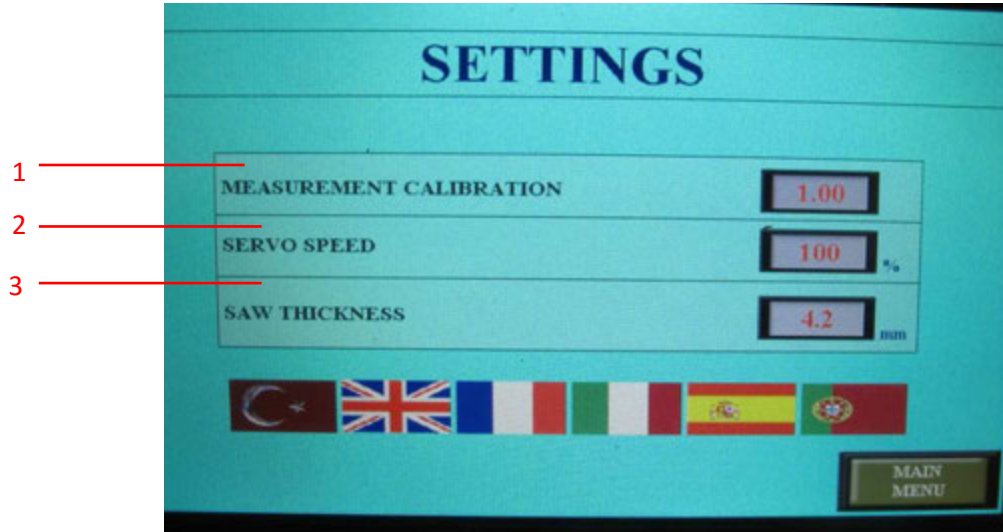


- |    |  |
|----|--|
| 1- | Cutting size of the part to be cut.  |
| 2- | Estimated cutting process ending time  |
| 3- | Shows which part of the cutting operation in prescription                        |
| 4- | Operation number of the part that is desired to be cut in the prescription queue |
| 5- | Time for the saw to go up  |
| 6- | Position of driving mechanism over course  |

- Touch AUTOMATIC OPERATION under MAIN MENU for automatic operation mode
- Open RECIPE PAGE by touching LOAD NEW WORK ORDER on appearing screen
- After entering type, quantity number and cutting sizes of the profiles to be cut, touch MAIN MENU command on right bottom corner
- Load profile after making adjustments with also exist in manual mode (thrust piston adjustments etc.)
- Then, touch OPERATE SAW command
- After touching START command, cutting process will start

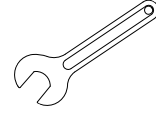
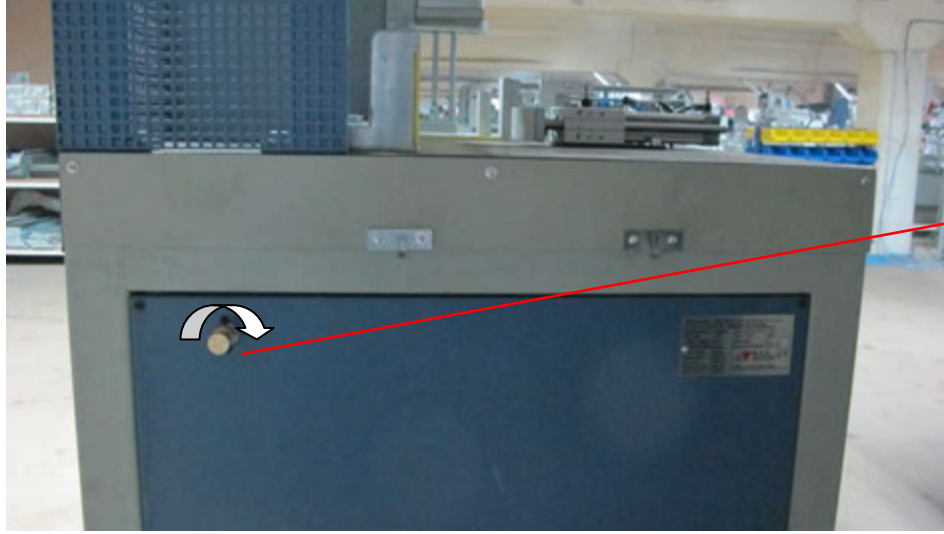


## -Settings Page



- 
- 1- Enables precise calibration. Do not modify this setting unless you are obliged to.
  - 2- Ratio of servo engine to maximum speed.
  - 3- Calibration is made according to thickness of the saw. General calibration of machine is performed here.
-

## 9.7 Process of Manually Setting Saw Output Speed



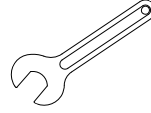
Saw Output Speed Manual  
Setting Button

By pulling the button in the  
image, you can decrease or  
increase the saw output  
speed

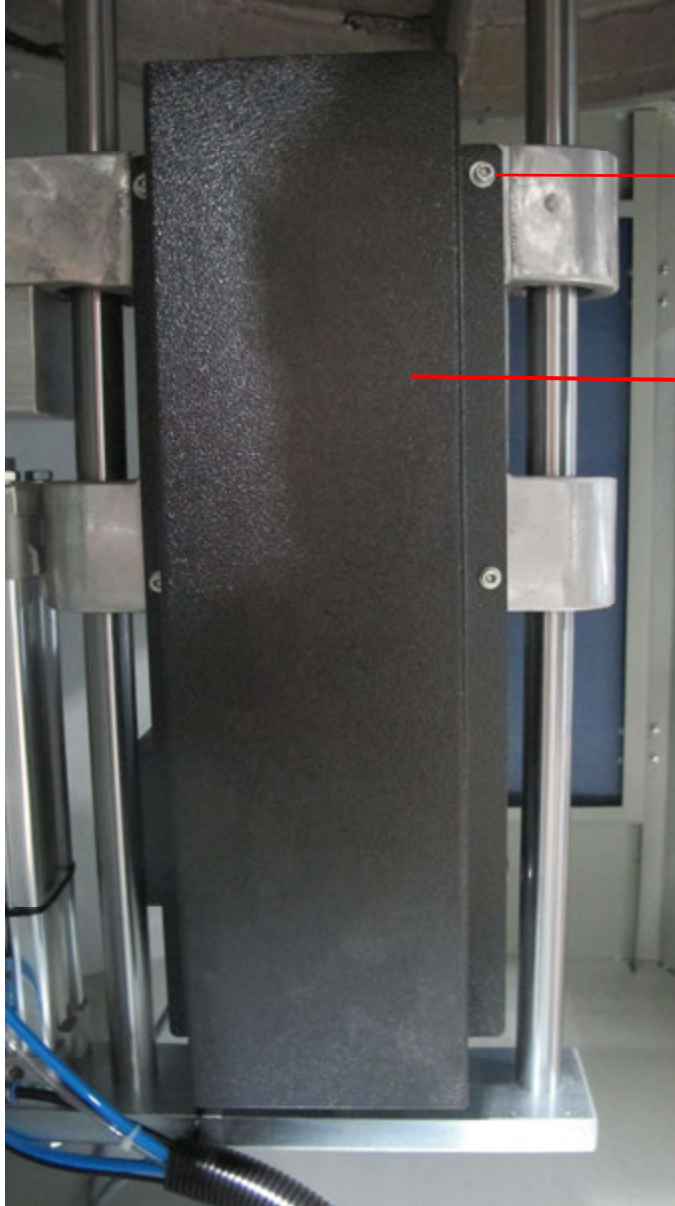
NOTE!

Decreasing the speed of  
saw in the cutting of thick  
or hard materials, increases  
the lifetime of saw and  
profile is cut in a clean  
(burr-free) way.





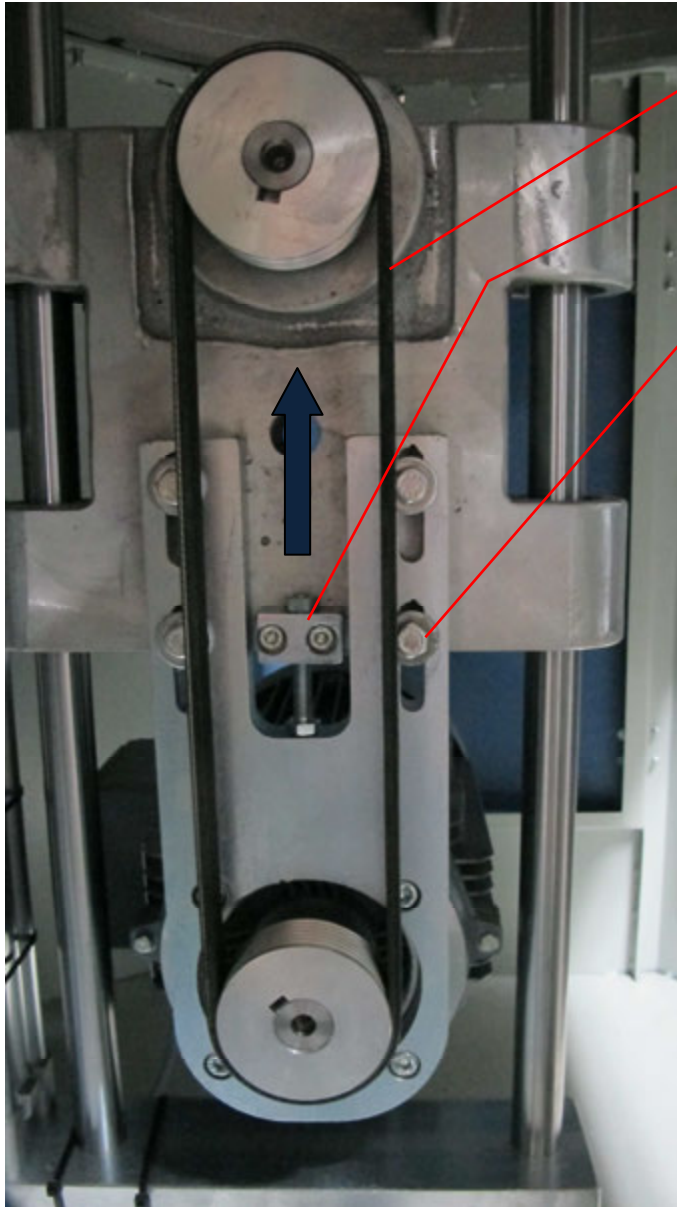
## 9.8 Process of Replacing Engine Belt



Allen Screws

Engine Belt Protection  
Cover

- Turn off Main Switch
- Remove the arranged Allens near the engine belt protection engine
- After removing Allens, remove engine belt protection cover gently



Engine Belt

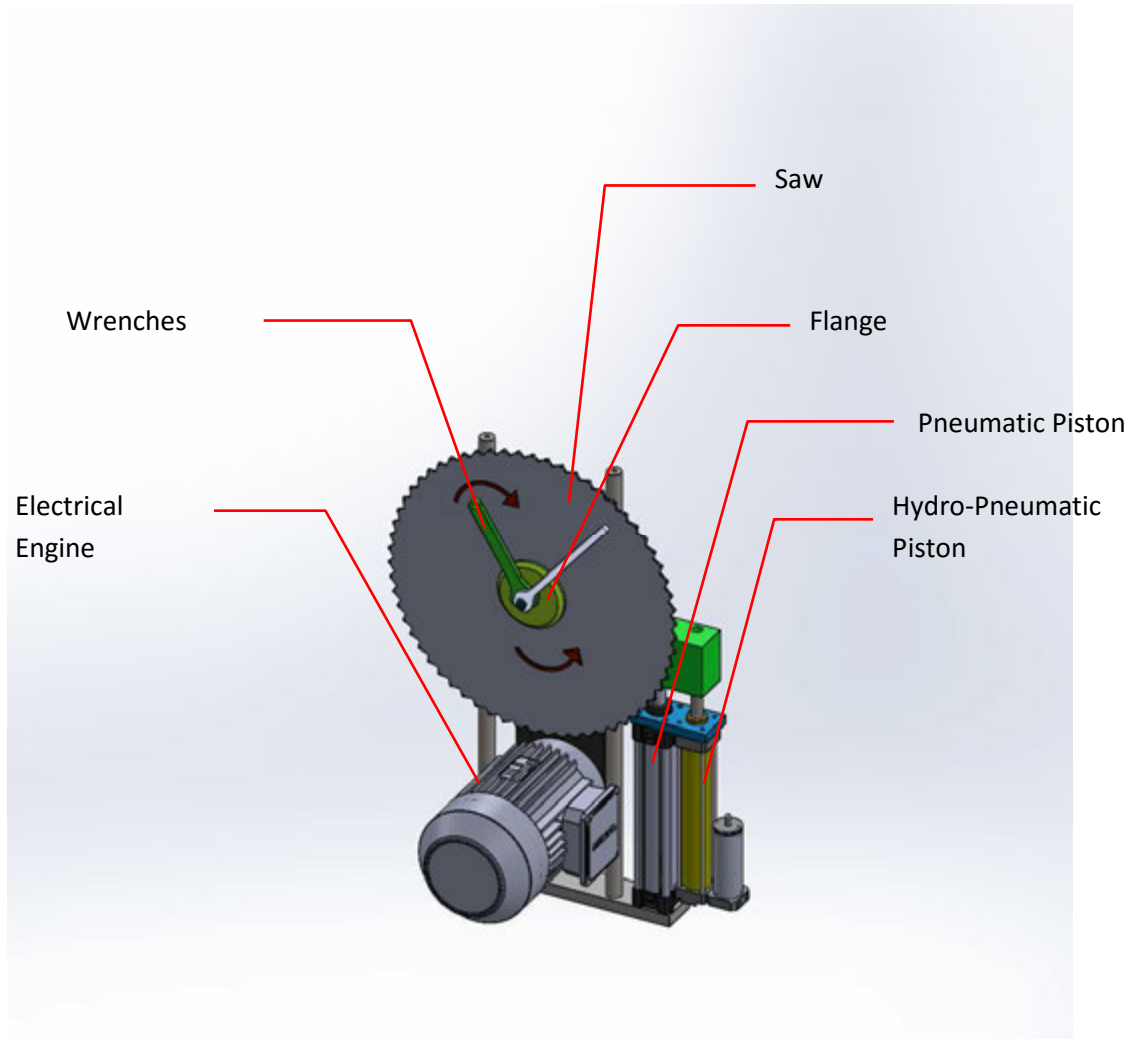
Engine Belt distance  
adjustment screw

Fixation screws

- Loosen the fixation screws
- After loosening engine belt distance adjustment screw, pull it up in the direction of arrow
- After removing flexing belt, replace it with a new one



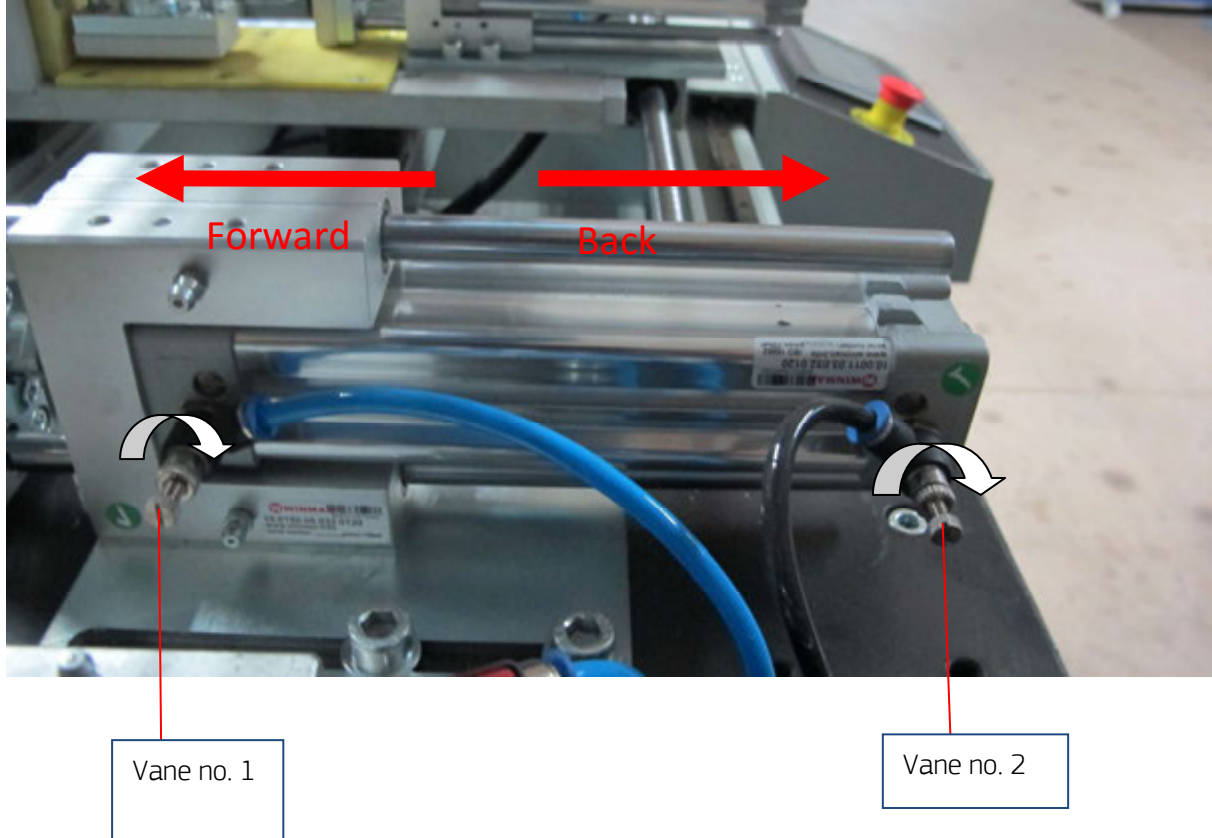
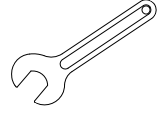
## 9.9 Process of Replacing Saw



While performing saw maintenance and replacements, take precautions against cutting. Make sure the switch is switched off. Process is done by an informed technical personnel.

1. First all air and electrical installations should be interrupted.
2. The saw is displaced by removing the lock nuts on the motor shaft where the saw is connected towards opposite directions.
3. The procedure is reversed once the saw is replaced with a new one.

## 9.10 Process of Turning Off, On of Fixation/Thrust Pistons or Manually Setting Their Speeds

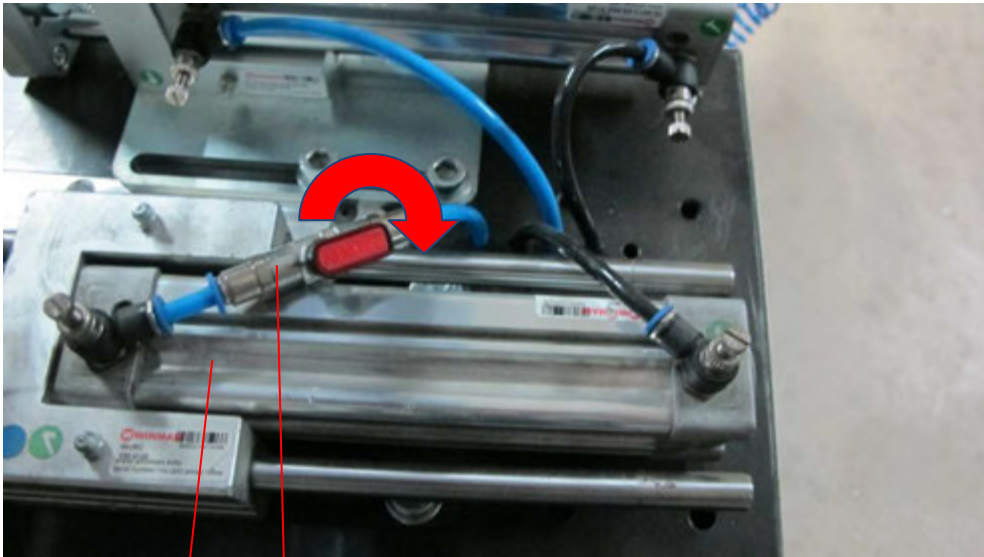


- There are two small vane in pneumatic pipe inlets of Thrust/Fixation pistons
- These vanes are used to turn off, on Thrust/Fixation pistons or to set their speeds in forward and back directions
- For turning off Thrust/Fixation pistons, turn them off by fully turning vanes no. 1 and 2 in the arrow direction
- In order to increase speed of Thrust/Fixation pistons in the back direction, vane no. 1 is turned on by turning it in back direction
- In order to increase speed of Thrust/Fixation pistons in the back direction, vane no. 2 is turned on by turning it in forward direction

## 9.11 Process of Turning On or Off The Thrust/Fixation Piston 1



Thrust/Fixation  
Piston 1

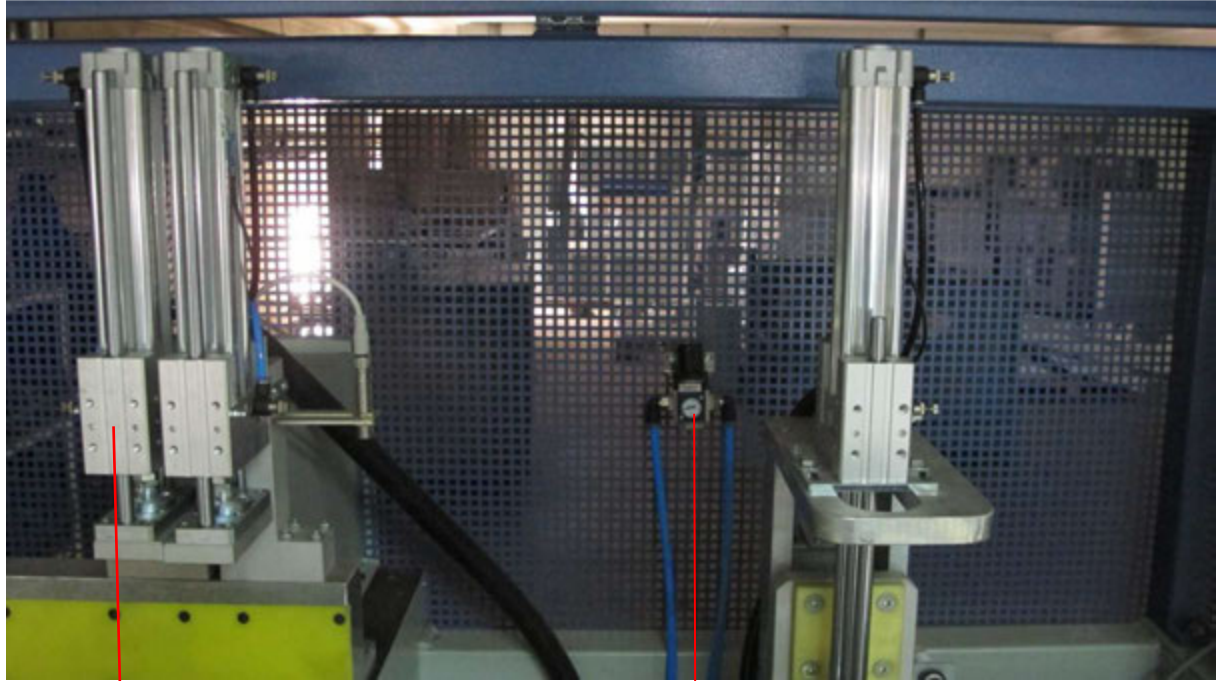
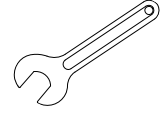


Thrust/Fixation  
Piston 1

Thrust/Fixation pistons 1 turning on-off  
vane

- To turn on or off the Thrust/Fixation piston 1, vane that is located on pneumatic connection pipe can be used
- To turn off Thrust/Fixation piston 1, turn the vane to direction of the arrow
- To turn on Thrust/Fixation piston 1, turn the vane in reverse direction

## 9.12 Process of Increasing or Decreasing Pressing Power of Upper Fixation/Thrust Pistons



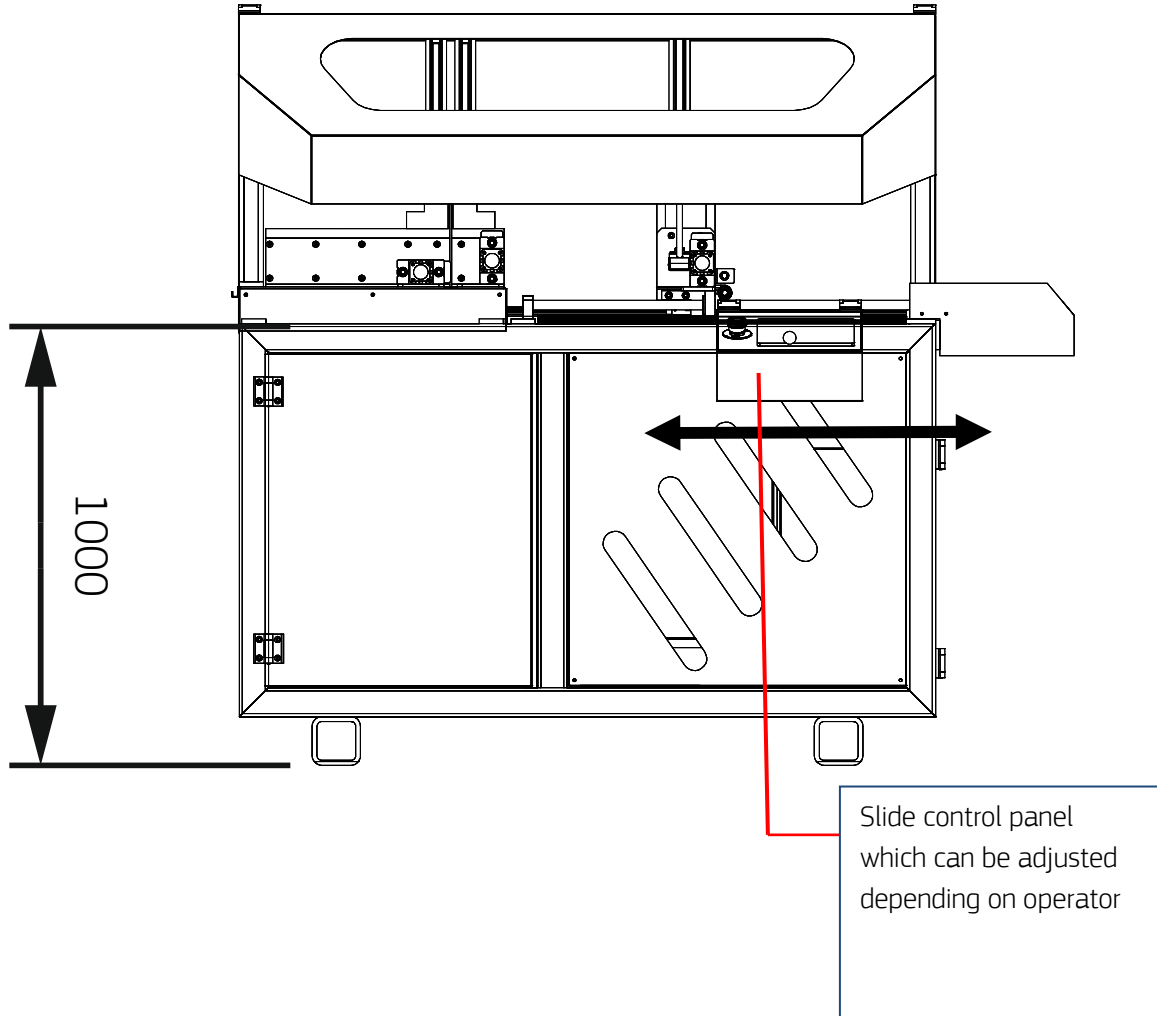
Upper  
Thrust/fixation  
pistons

Pneumatic pressure  
adjuster

- In order to increase or decrease pressing power of upper fixation/thrust profiles, pneumatic pressure adjuster located behind the pistons is used
- You can increase or decrease pressure depending on the indicator over pneumatic pressure adjuster
- If you increase the pressure, upper thrust/fixation pistons will press with a greater power, you can increase pressing power of upper thrust pistons which is suitable for your profile, by the help of pneumatic pressure adjuster

## 10. Ergonomics

Machine is suitable for the ergonomics of operation. Access to the height of operator panel and the equipment requiring manual setting is convenient. Access to electrical and pneumatic board is convenient. Ergonomic conditions are suitable for the processes of taking part, loading and preliminary preparation.



## 11.Problem Determination Chart

FAILURE	CAUSE	SOLUTION
No Energy Coming To Machine	<ul style="list-style-type: none"> <li>Main panel switch Off</li> </ul>	<ul style="list-style-type: none"> <li>Turn on main switch</li> </ul>
Pneumatic Equipment Not Working	<ul style="list-style-type: none"> <li>No air coming to machine</li> </ul>	<ul style="list-style-type: none"> <li>Check compressor line</li> </ul>
Pistons Do Not Perform Squeezing Process	<ul style="list-style-type: none"> <li>Pneumatic pressure is low</li> </ul>	<ul style="list-style-type: none"> <li>Check regulator pressure setting</li> </ul>
If it does not start even a profile is given	<ul style="list-style-type: none"> <li>Piston not seeing sensors</li> <li>Engine protection is activated</li> </ul>	<ul style="list-style-type: none"> <li>Check piston sensors</li> <li>See the fuse of engine protection by opening electrical panel</li> </ul>
If button is malfunctioning	<ul style="list-style-type: none"> <li>There may be dust on contacts</li> <li>Cable ends might get loose</li> <li>They might stick because of an arc</li> </ul>	<ul style="list-style-type: none"> <li>They are cleaned by air</li> <li>Ends are tightened</li> <li>Button is replaced</li> </ul>
If valve is malfunctioning	<ul style="list-style-type: none"> <li>Valve coil might be loose</li> <li>Coil cables might be loose or burned</li> <li>Valve might be short of oil</li> <li>There might be dirt in dimmers</li> </ul>	<ul style="list-style-type: none"> <li>Coil is replaced</li> <li>Cables are tightened or replaced with a new one</li> <li>Valve is lubricated</li> <li>Hose is checked</li> <li>If malfunction does not disappear even the above processes are performed, valve is replaced with a new one</li> </ul>
Not cutting profile properly	<ul style="list-style-type: none"> <li>Saw blades might be blunt</li> </ul>	<ul style="list-style-type: none"> <li>Replace saw blade</li> </ul>
Machine not starting operation	<ul style="list-style-type: none"> <li>Engine protection is activated since electrical engine is in difficulty</li> </ul>	<ul style="list-style-type: none"> <li>Raise switch over engine protection</li> </ul>
Engines not rotating	<ul style="list-style-type: none"> <li>An end in engine connector might be loose</li> <li>An end in switch connection connector might be loose</li> <li>Emergency stop button might be stuck pressed</li> </ul>	<ul style="list-style-type: none"> <li>Loose ends are tightened</li> <li>Loose ends are tightened</li> <li>Emergency stop button is turned off</li> </ul>
Engine Not Operating (Saw not rotating)	<ul style="list-style-type: none"> <li>Improper electrical connection</li> </ul>	<ul style="list-style-type: none"> <li>If electrical board phase protection relay light is not on, correct the phase connections</li> </ul>
<ul style="list-style-type: none"> <li>If the machine does not proceed to reference</li> <li>If the machine switches to stop position while operating in automated mode</li> <li>If the machine does not move in manual mode</li> </ul>	<ul style="list-style-type: none"> <li>Machine is alarmed.</li> </ul>	<ul style="list-style-type: none"> <li>The alarm page is checked. The alarm is detected; necessary procedures are performed to eliminate the alarm; the alarm is reset by pressing and releasing the emergency stop button. The bench is forwarded to reference.</li> </ul>

## 11.1 Alarm Codes and Meaning

ERROR	Solution
Reset servo alarm	Press the reset that appears on screen
Part size not entered Alarm	Open recipe page from program coding menu and enter part size
Cutting time not entered alarm	Enter cutting time located on Manual operation or Automatic operation mode screen
Material ended alarm	Shows that material is ended before completing cutting profiles which are indicated on recipe page, perform profile loading
Recipe selection wrong alarm	Press program coding menu and edit recipe page
Recipe work order ended alarm	Shows that cutting profiles determined on recipe pages are completed



## 12. General Maintenance Subjects

### 12.1 General Maintenance

DESCRIPTIONS	DAILY	WEEKLY	MONTHLY
Cleaning the machine and its surrounding	✓		
Cleaning the lubricants and other	✓		
Cleaning the moving sections	✓		
Cleaning of the bearers and threaded rods	✓		
Conditioner check (water, oil)	✓		
Lubricating points		✓	
Weekly maintenance		✓	✓

### 12.2 Recommended Oils to be Used for the Machine

Festo special oil [OFSW-32](#), order no. 152 811

Other appropriate oil types: (viscosity range: 32 mm<sup>2</sup>/s (=cSt) at 40°C; ISO class VG 32 to ISO 3448

### 12.3 Alternative Oil Codes

- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32



#### **NOTE:**

The bearers and moving sections on the machine should be cleaned from shavings and dust by compressed air.

### 12.4 Coolant Control

Coolant is used in SL 500 Aluminum block cutting machine.



## 12.5 Conditioner Water Level Control



No water should be present inside glass tube on left side of conditioner (reservoir no. 1). If water is accumulated, it should be discharged.

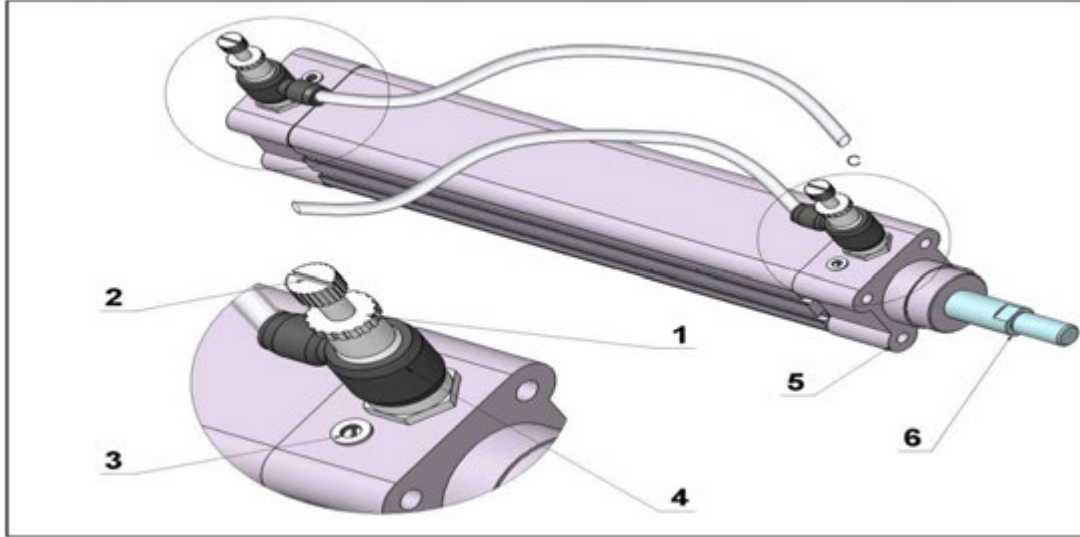
For this purpose, depending on the type of the conditioner used, it is enough to push the stopper under the tube upwards or to turn it.

## 12.6 Conditioner Water Level Control

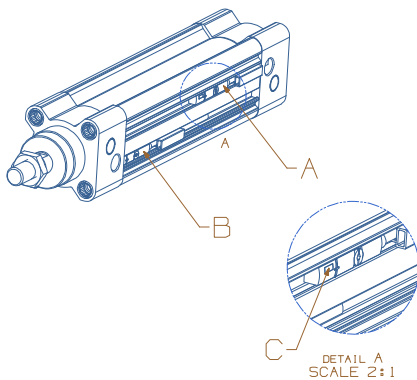
The lubricant level in the transparent tube on the right of the conditioner is checked. If the lubricant is finished, the air to the machine is interrupted and lubricant is added to the conditioner. When lubricant decreases, it is replenished with Shell TELLUS C 10 lubricant or an equivalent lubricant.

## 12.7 Cylinder Settings

Part (1) adjustment nut is loosened. Part (2) adjustment bolt is tightened or loosened. Thus pressure that effects to piston (6) inside cylinder (5) is adjusted, engine moving speed is detected. We can perform bolstering adjustment by loosening and opening screw (3)



## 12.8 Cylinder Sensor Setting



A- Cylinder Back Position Sensor

B- Cylinder Forward Position Sensor

C- Sensor LED Indicator Light

**NOTE:**

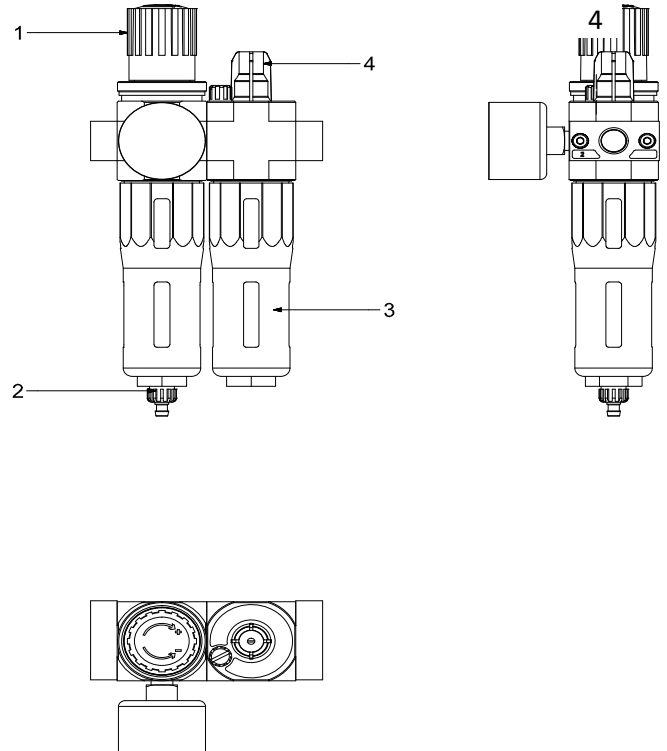
On normal machine standby position, cylinder sensor LED lights should be on in respect to cylinder position forward and back sensors. You can perform sensor settings with special Allen inside the spare part box.

## 12.9 Maintenance of Filters

For pressure adjustment: Regulator head shown with “1” is pulled upwards. If it is turned clockwise, outlet air pressure of conditioner increases, if it is turned anti-clockwise, the pressure decreases.

Discharge of condensation fluid: Discharge of water is performed by pressing or turning discharge screw shown with “2”.

Putting oil into conditioner: Oil container shown with “3” is removed by turning it clockwise and pneumatic oil is put into container. Adjusting lubricant speed: Adjustment screw shown with “4” is turned clockwise and flow (dripping) speed of oil is reduced, it is increased in the opposite direction.



## 13. Warrant Conditions

---

Duration of warranty starts from the date of billing and it is 2 years.

Machine manufacturing and material errors are covered within the scope of our company's warranty.

In case the machine fails within the warranty period, the time spent for repair is added to the warranty period.

The repair period of the good is maximum 30 business days. This time, starts with the date of notification of malfunction to the service center.

M.S.K. service authority or representative determines whether the malfunctioning part and/or equipment is covered under warranty.

In case that technical service personnel give directions within machine warranty period, transportation, visa and accommodation expenses are Buyer's responsibility.

Within machine warranty period, if machine gets malfunctioned because of material and craftsmanship as well as installation errors, it will be repaired without any cost including the cost of the replaced part.

The manufacturer company is responsible for supplying the parts and for troubleshooting; it may not be held responsible for loss of work.

The transportation and customs tax expenses of the spare parts are on the Buyer.

The machine being within the warranty scope does not change the payment conditions of the Buyer.

Buyer can not claim any indemnity for failure, does not have the right of payment postponing or payment cancellation, purchase can not be canceled or he/she can not request indemnity for the reason of job loss, because warranty is given for manufacturing and material errors.

The consumables required during machine adjustments shall be supplied by the Buyer.

All warranty claims should include machine serial and model numbers.

---

## 13.1 Subjects Outside the Scope Of Warranty

---

Consumables (router, drill bits, saws, teflon, etc.) are out of warranty.

Damages that might occur during shipment.

Failures arising from the use of unauthentic parts.

Failures arising from the negligence and ignorance of the operator.

Service staff should start up the machine.

Machine gets out of warranty because of failures that might occur because of reasons such as leaving the conditioner with no oil, not using oil with proper characteristics etc.

The machines damaged due to mains voltage and

a. Missing phase

b. Inverted phase

c. Over current

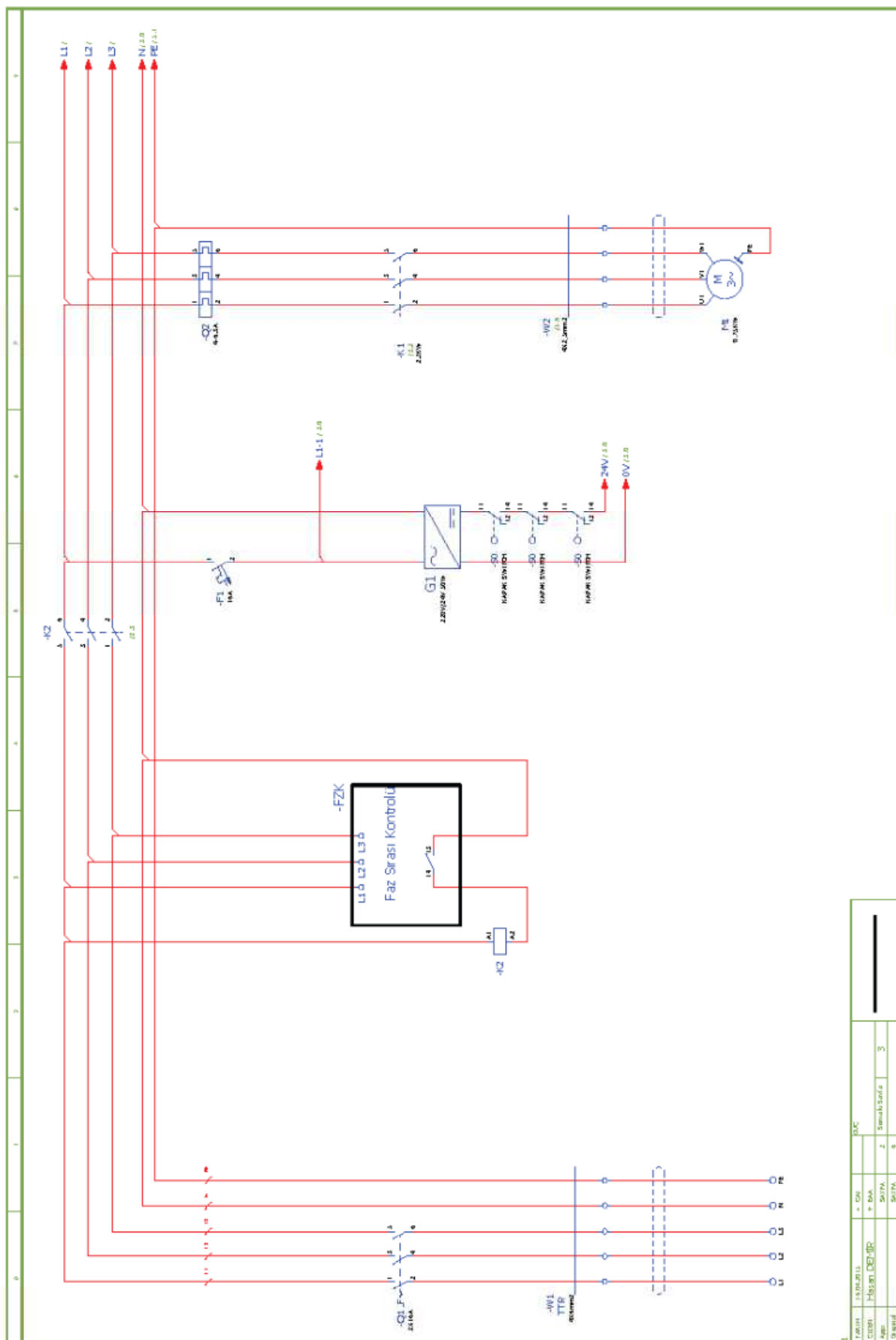
d. Under current

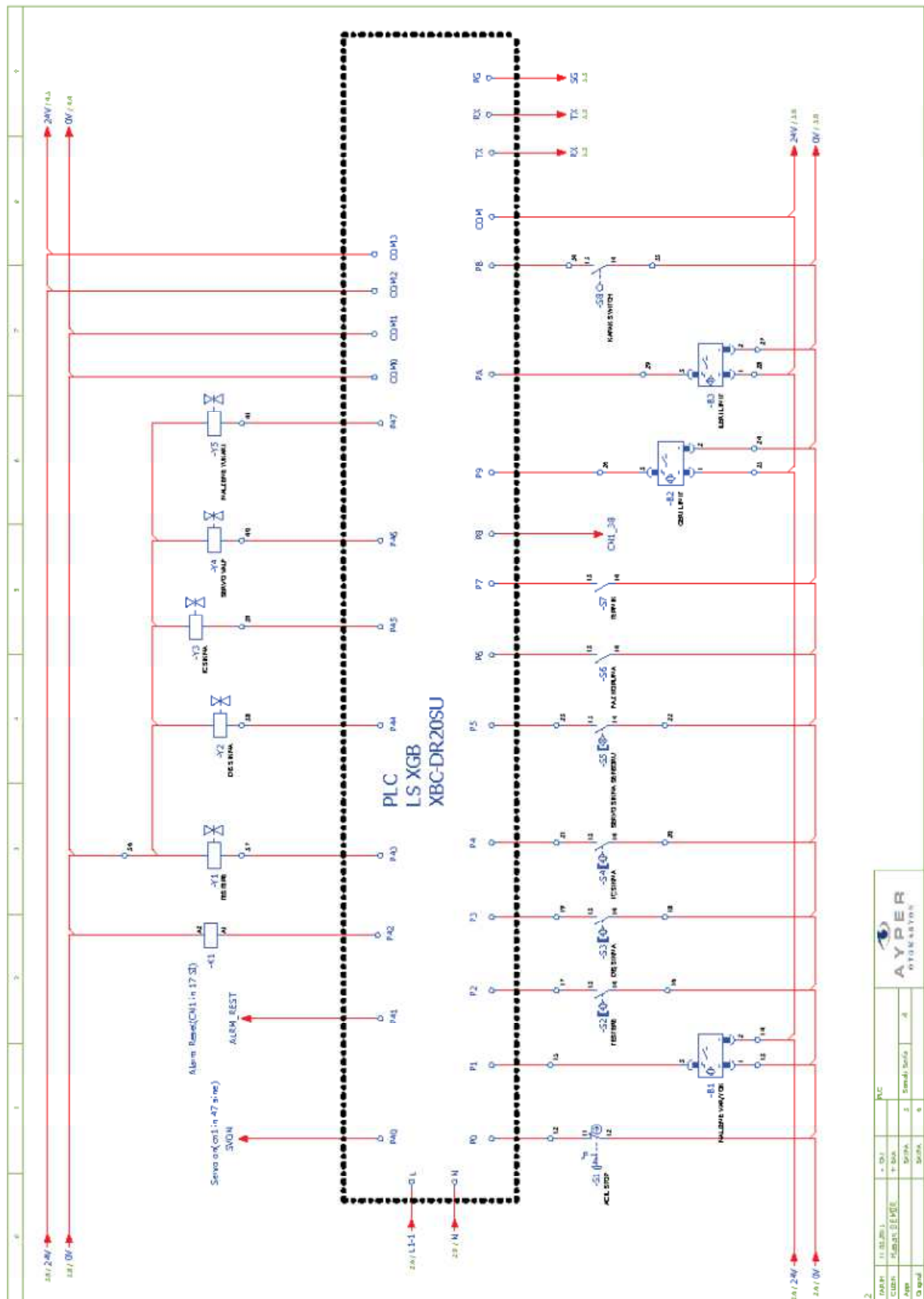
e. The machines which were damaged due to over-voltage, etc. are not evaluated under warranty.

## 14. Appendix

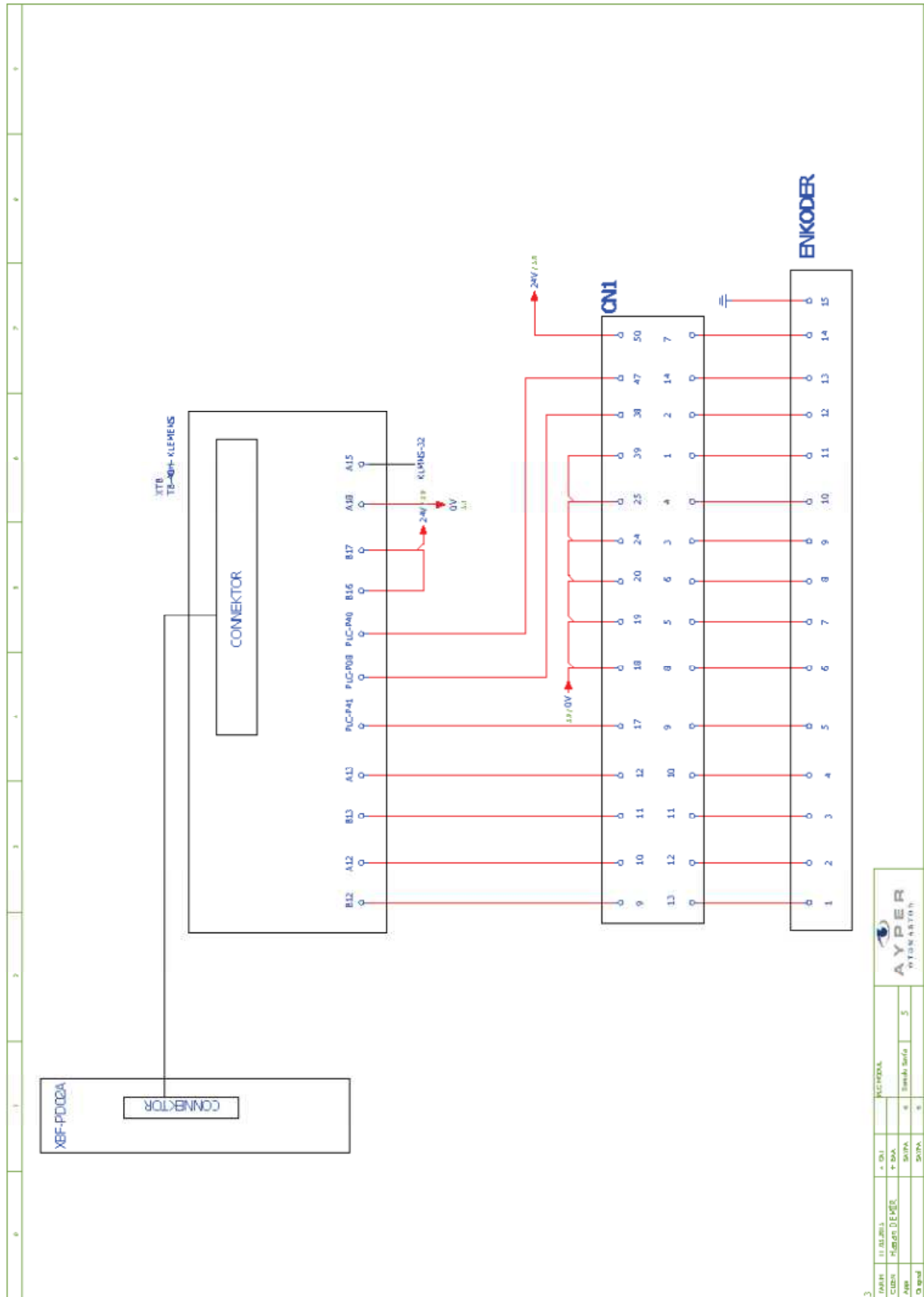
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- 14.1 ELECTRICAL CIRCUIT DIAGRAM
- 14.2 PNEUMATIC SCHEME
- 14.3 EXPLODED PICTURES AND MATERIAL LIST
- 14.4 SPARE MATERIAL LIST

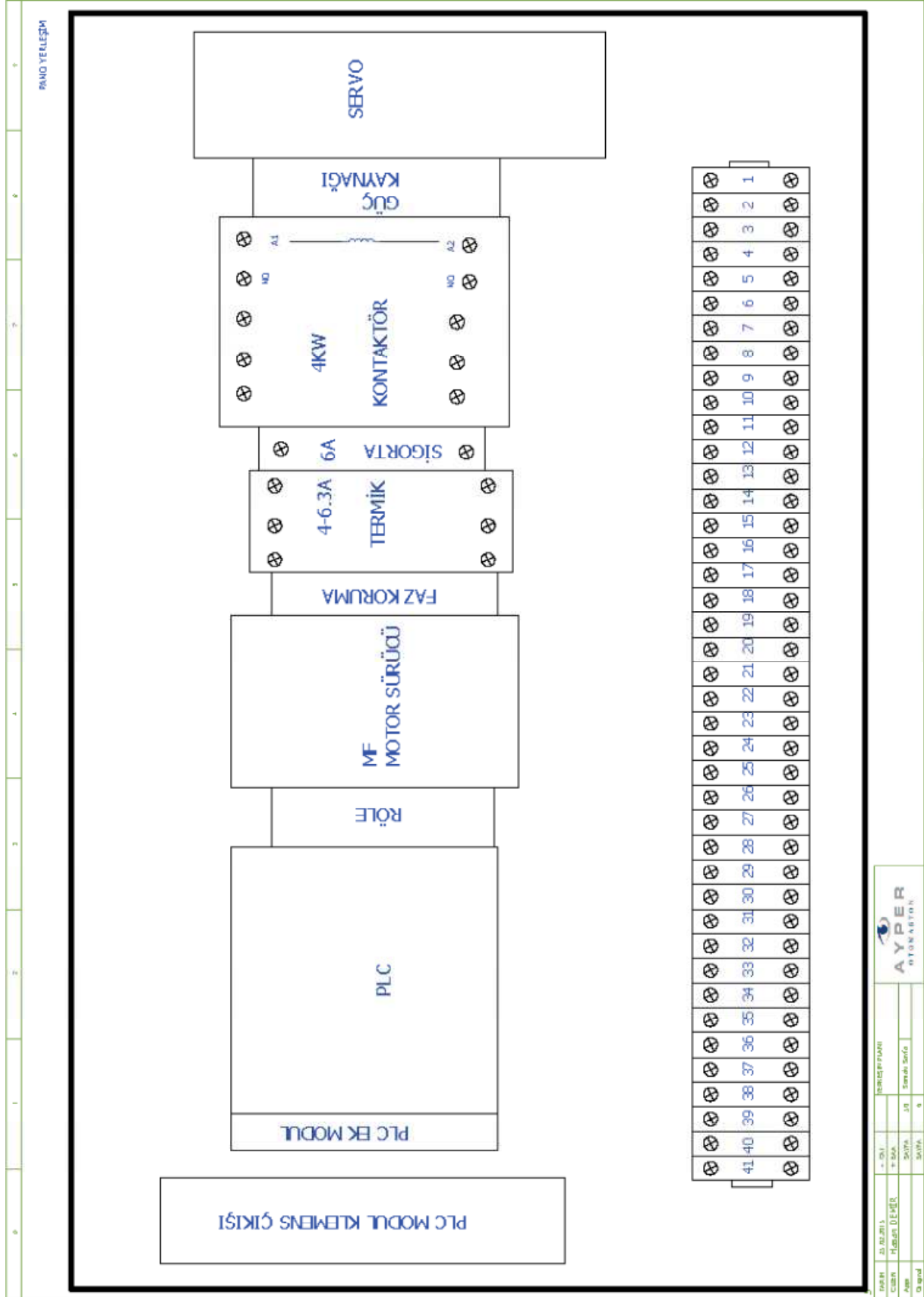


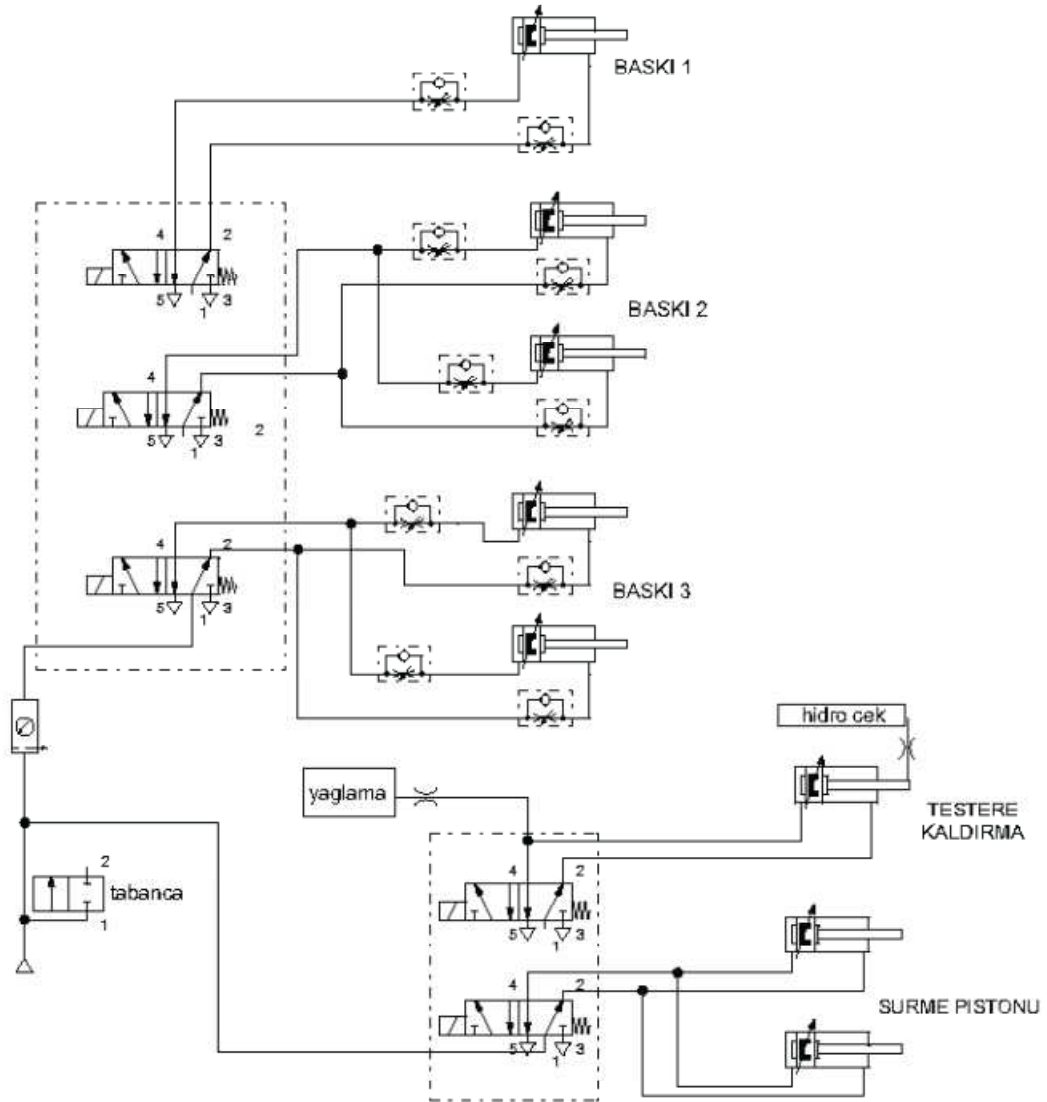




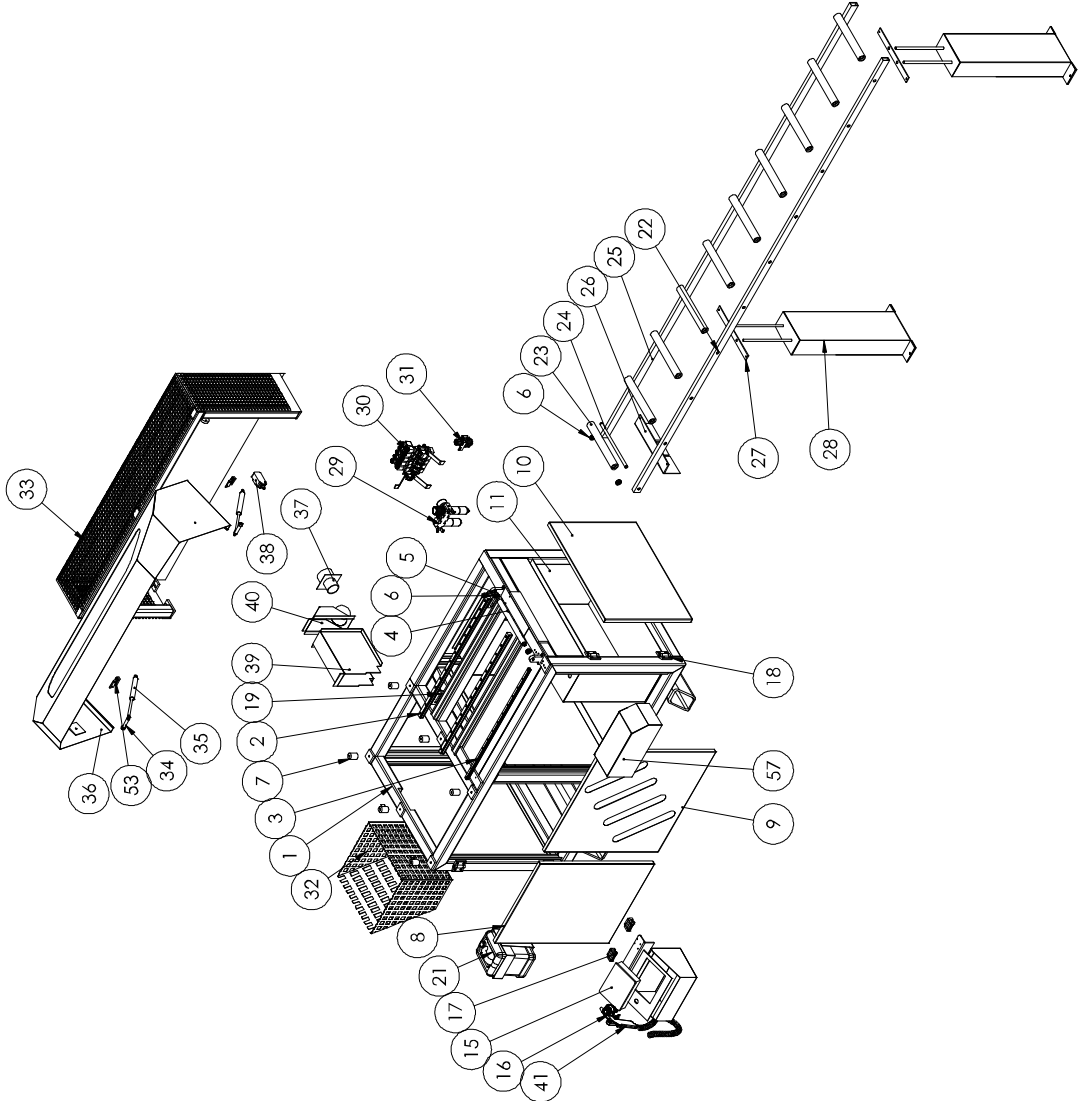


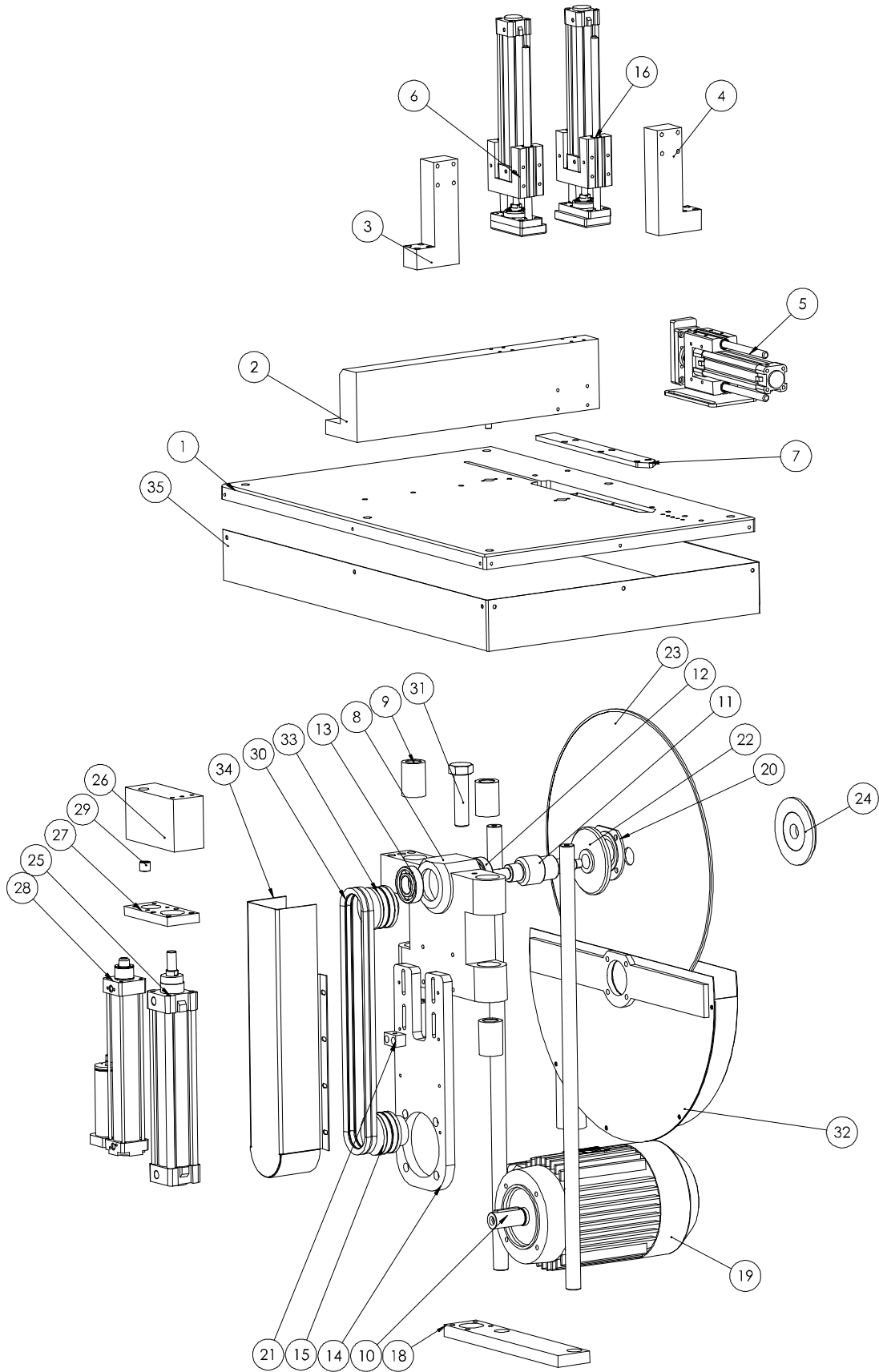




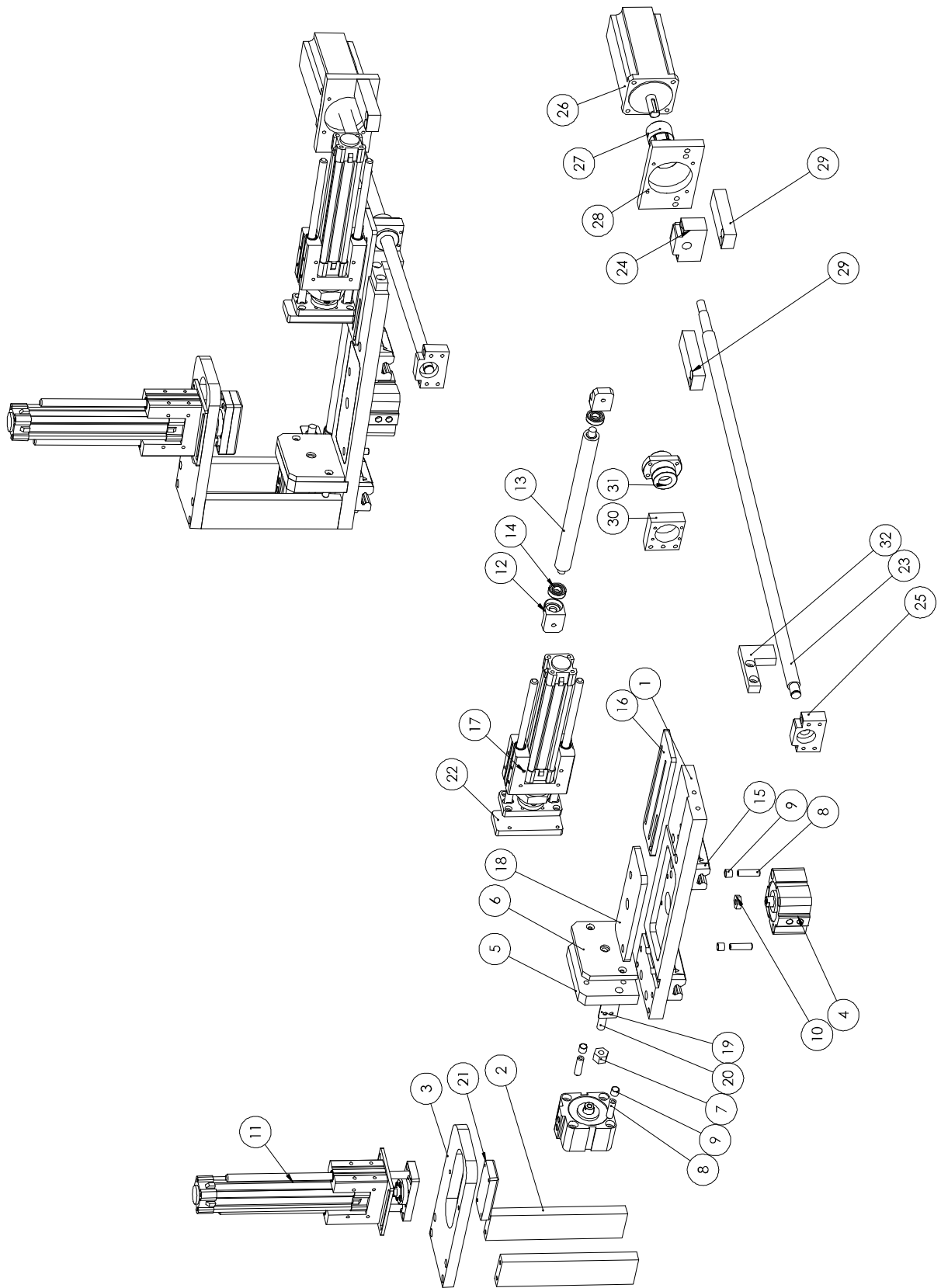


ÖGE NO.	PARÇA NUMARASI	PARÇA ADI	MKT.
1	503.KP.01	ANA GÖVDE	1
2	503.HZP.02 (RAY)	25 LİK RAY	2
3	503.HZP.54	15 LİK RAY	1
4	503.YM.18	SÜRME MİLİ	1
5	503.PK.14	RULMAN YATAĞI	2
6	503.HZP.895	6001 RULMAN	4
7	503.AK.01	TABLA YÜKSELME TAKOZLARI	6
8	503.SP.35	KAPAK-1	1
9	503.SP.02	KAPAK-2	1
10	503.SP.04	KAPAK-3	1
11	503.SP.33	ELEKTRİK PANOSU	1
12	503.LK.20	KONTROL ÜNİTESİ TAŞIYICI PARÇA	1
13	503.KP.19	KONTROL PANOSU	1
14	503.ALİM.53	ETİKET	1
15	503.HZP.38	EKRAN	1
16	503.HZP.22	ACİL STOP	1
17	503.HZP.541	15 LİK ARABA	2
18	503.HZP.341	MENTEŞE	4
19	503.LK.27	SENSÖR TUTUMA PARÇASI	2
20	503.HZP.30	SENSÖR	1
21	503.HZP.371	SOĞUTMA DEPO bidonu (503)	1
22	503.PRF.05	BANT PROFİLİ	1
23	503.YM.37	SÜRME RULOSU	10
24	503.YM.38	RULO MİLİ	1
25	503.PRF.04	BANT PROFİL KARŞILIĞI	1
26	503.LK.40	BANT MONTAJ PARÇASI	1
27	503.LK.41	BANT AYAK MONTAJ PARÇASI	2
28	503.KP.37	BANT AYAGI	2
29	503.HZP.224	ŞARTLANDIRICI.1-2	1
30	503.HZP.616	VALF GRUBU	1
31	503.HZP.268	MANOMETRE	1
32	503.SP.47	PARÇA SEPETİ	1
33	503.PRF.03	ÜST PROFİL GÖVDE	1
34	503.YM.32	GAZLI YAY BAĞLAMA PARÇASI	2
35	503.HZP.263	DESPA-450 NSİLİNDİR	2
36	503.SP.23	ÜST AÇILIR KAPAK	1
37	503.KP.35	TALAŞ ÇIKIŞ PARÇASI	1
38	503.HZP.57	KAPAK Switch	1
39	503.LK.31	TALAŞLIK	1
40	503.KP.24	TALAŞ ATMA	1
41	116.HZP.048	HAVA TABANCASI	1





ÖGE NO.	PARÇA NUMARASI	PARÇA ADI	MİKT.
1	503.PK.11	ANA TABLA	1
2	503.AD.03	GÖNYE TABABLASI	1
3	503.ALM.48	PİSTON BAĞLAM PARÇASI	1
4	503.ALM.60	PİSTON BAĞLAM PARÇASI	1
5	503.ALT.19	32X120 C YATAKLI PİSTON	1
6	503.ALT.97	32X180 C YATAKLI PİSTON	1
7	503.ALM.29	AĞIZLIK	1
8	503.AD.04	HAREKETLİ GÖVDE	1
9	503.HZP.364	KAYMALI RULMAN	4
10	503.YM.26	MİL	2
11	503.YM.25	TESTERE MALAFASI	1
12	503.HZP.356	SABİT BİLYALI RULMAN	1
13	503.HZP.357	SABİT BİLYALI RULMAN	1
14	503.LK.50	1-5 KW MOTOR BAĞLANTI PLAKASI	1
15	503.HZP.59	2spz67-1108_01-KASNAK	1
16	503.ALT.98	32X180 C YATAKLI PİSTON	1
17	503.HZP.358	ISO 4762 M10 x 16 --- 16N	1
18	503.SÇ.11	PİSTON ALT YATAKLAMA	1
19	503.HZP.359	AGM 2E 100L 2 4KW 3000 DW B14 FLANŞ	1
20	135.LK.01	RULMAN KAPAĞI	1
21	503.SÇ.12	GERDİRME PARÇASI	1
22	503.YM.13	TESTERE ARKA FLANSI	1
23	503.HZP.360	Ø500 TESTERE	1
24	503.YM.14	TESTERE ÖN FLANSI	1
25	503.HZP.361	WAC50X220	1
26	503.ALM.39	YÜKSELTME TAKOZU	1
27	503.LK.29	PİSTON HİDROÇEK BAĞLAMA PARÇASI	1
28	503.HZP.362	HC.40-220.00-HİDROÇEK	1
29	503.YM.27	BAĞLANTI PARÇASI	1
30	503.KYS.01	KAYIŞ	1
31	503.HZP.363	STOP CİVATASI	1
32	503.KP.11	TESTERE MUHAFAZASI	1
33	503.HZP.58	2spz67-1108_01-KASNAK	1
34	503.KP.41	KAYIŞ KORUYUCU PARÇA	1
35	503.SP.11	KORUYUCU SAÇ	1





ÖĞE NO.	PARÇA NUMARASI	PARÇA ADI	MİKT.
1	503.ALM.45	GEZER TABLA	1
2	503.PK.26	SÜTÜN	2
3	503.PK.22	ÜST SÜTÜN	1
4	503.WSA.63	WSAC63X05 PİSTON	2
5	503.ALM.11	PİSTON BAĞLAMAMA SİPERİ	1
6	503.ALM.47	BASKI PARÇASI	1
7	503.AK.03	YÜKSELME BAĞLANTI TAKOZU	1
8	503.YM.10	YUKARI AŞAĞI HAREKET MİLİ	4
9	503.HZP.04	PAP BURÇ =YAĞLI BURÇ	4
10	503.AK.04	YÜKSELME BAĞLANTI TAKOZU	1
11	503.ALT.01	32X180 C BAĞLANTILI PİSTON	1
12	503.PK.15	RULAN YATAĞI	2
13	503.YM.18	SÜRME MİLİ	1
14	503.HZP.63	6001 RULMAN	2
15	503.HZP.64	ARABA HGW25CA	2
16	503.LK.04	PİSTON BAĞLANTI PARÇA	1
17	503.HZP.65	WAC 32X150 TAKIM,	1
18	503.ALM.10	BAKİ PARÇASI	1
19	503.LK.45	SENSÖR BAĞLANTI PARÇA	1
20	503.HZP.30	SENSÖR	1
21	503.ALM.58	PLASTİK BASKI PARÇASI	1
22	503.ALM.56	PLASTİK BASKI PARÇASI	1
23	503.YM.21	Ø20X90(20HATVE VİDALI MİL)	1
24	503.HZP.50	BF RULMAN YATAĞI	1
25	503.HZP.51	BF-15 RULMANLI YATAK	1
26	503.HZP.53	LS SERVO (M83D01492) 800 WATT APM-SC08AEK	1
27	503.ALT.789	KAPLIN	1
28	503.ALM.49	SERVO MOTOR BAĞLANTI PARÇASI	1
29	503.ALM.50	BAĞLANTI PARÇASI	2
30	503.ALM.37	VİDALI MİL SOMUNU BAĞLANTI PARÇASI	1
31	503.HZP.36	COMTOP SFE02020 (20 HATVE)	1
32	503.ALM.59	VİDALI MİL BAĞLANTI PARÇASI	1

