

## Doughnut **fryer**

FRY36SS - FRY36SC - FRY48SS  
FRY48SC - FRY60SS - FRY60SC



## 1. INTRODUCTION

### 1.1. Foreword

The manual contains all the relevant information and facts for the usage of the DOUGHNUT FRYER FRY36SS , FRY36SC , FRY48SS , FRY48SC , FRY60SS and FRY60SC .

It is necessary to read it carefully before operating it.

All the given publications should be kept in a safe and visible place so that the personnel and workers can use it. The manual should be kept in a dry place, if possible in an envelope protected from light, moisture and atmosphere. The producer is not responsible for possible defaults and invalid work of the machine that may occur because of invalid and careless operating and maintenance.

### 1.2. Warranty: validity and conditions

The warranty is valid 12 months from the day of the delivery and refers to the parts where the failure is found. The parts damaged in transportation, invalid installation or maintenance and careless usage are not covered by warranty.

The warranty is only valid for the first purchaser and the machine cannot be changed under any circumstances.

The warranty stops if the machine is not handled in an appropriate manner or the repairs and changes are not carried out by the personnel authorized by MACPAN

The producer is not responsible for any damage -direct or indirect-which affects people, animals or things because of the fault on the machine or enforced operation stop.

Repairs or exchange of the invalid parts is usually carried out in the purchaser's space. If experts evaluate that it is not possible to do so, the purchaser should deliver the machine to MACPAN., and they will return the machine after the repairs to the place agreed.

When the warranty expires, the operations needed are done with charging the fees for workers, travel expenses, spare parts expenses and possible transportation of the spare parts.

The warranty should be filled with the data required and returned to MACPAN in order to take effect 2 weeks from delivery. If the purchaser cannot produce a copy of a warranty list which should be saved, it is assumed the warranty period has expired.

### 1.3. Directions and notes to the user

The producer refuses every responsibility for damages to the people, animals and things occurred because of disrespect of the following when using and maintaining the machine:



- **THE MACHINE MUST NOT BE USED** for different purposes to the ones approved by the producer
- **THE MACHINE MUST BE PROPERLY** grounded to the scheduled destination for protection from electric shock,
- **EVERY DAY CHECK OF THE SAFETY DEVICES**, general condition and oil level must be done
- **THE MACHINE MUST BE CLEANED** daily
- When loading, adjusting, parts exchanging, cleaning, repairs and maintenance, the necessary measures should be respected and protection should be obeyed, in order to prevent turning on of the machine by other , unauthorized, persons
- **THE SAFETY DEVICES MUST NOT BE DAMAGED**
- **THE SAFETY DEVICES MUST NOT BE REMOVED** except when needed for the work on the machine, provided the measures are taken to minimize and warn on the danger present when such actions take place, and in this manual are described in detail.
- **THE PROTECTION AND THE SAFETY DEVICES** should be returned the moment when the need for their removal stops
- **THE PERSONNEL MUST BE WARNED** of the special dangers connected to their working space
- **CHILDREN SHOULD BE SUPERVISED** to ensure that they do not play with the machine.

## 2. THE MANUAL-DESCRIPTION OF THE MACHINE

### 2.1. FOREWORD

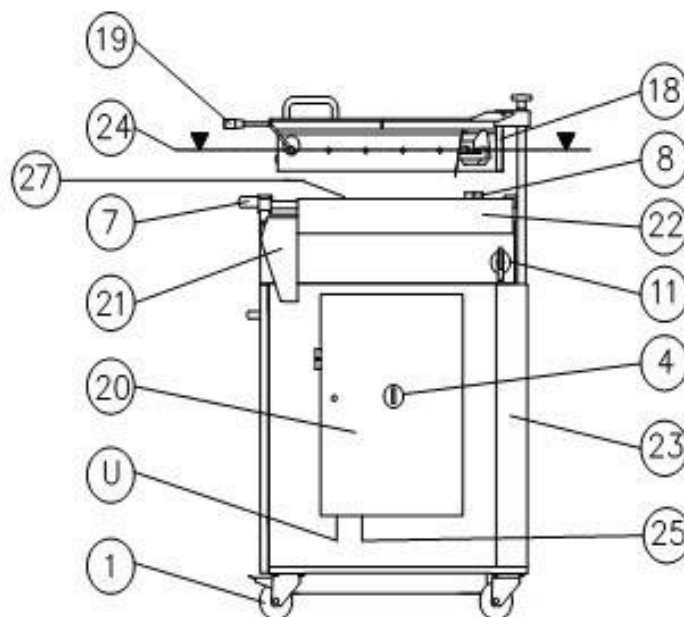
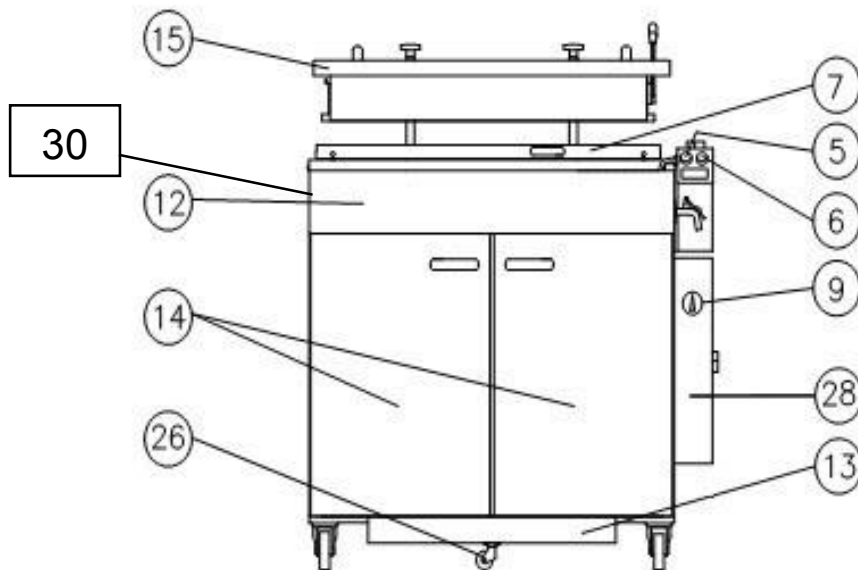
**The doughnut fryer** models FRY36SS , FRY36SC

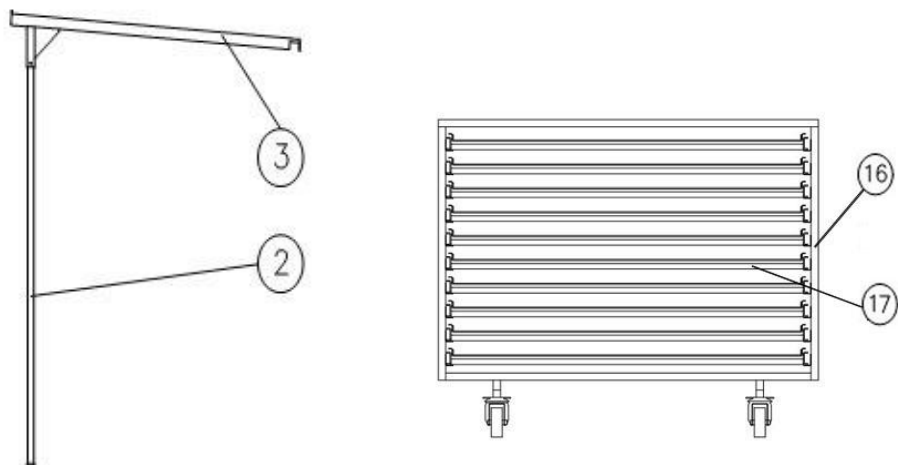
FRY48SS , FRY48SC , FRY60SS and FRY60SC is a doughnut frying machine. It is made of the stainless steel of AISI 304 quality. It consists of an oil tub with 6 baskets. Each can be filled by 6doughnuts FRY36SS (FRY36SC ), 8doughnuts FRY48SS (FRY48SC ) and 10 doughnuts FRY60SS (FRY60SC ), so the capacity of a batch is 36, 48 and 60 pieces. They are fried in electrically heated oil, which temperature is regulated automatically. Lifting and lowering of the baskets is done by electric motor and rotating the doughnuts and emptying the fried doughnuts to the drainer is done by lever device. The drainer is removable so during the frying of a batch of doughnuts the other batch is cooling and draining.

In the housing case underneath the tub there is a fermenting chamber (FRY36SC , FRY48SC and FRY60SC ) where a trolley with 9 floor tray can be placed. The temperature is controlled automatically. Air and water heaters are below the container where the water for the moisture needed is added. We put the shaped dough in the baskets and fill it after frying. Any other use of the machine should be considered dangerous for the life and health of the person who operates it.

## 2.2. Description

### 2.2.1. Description of the fryer





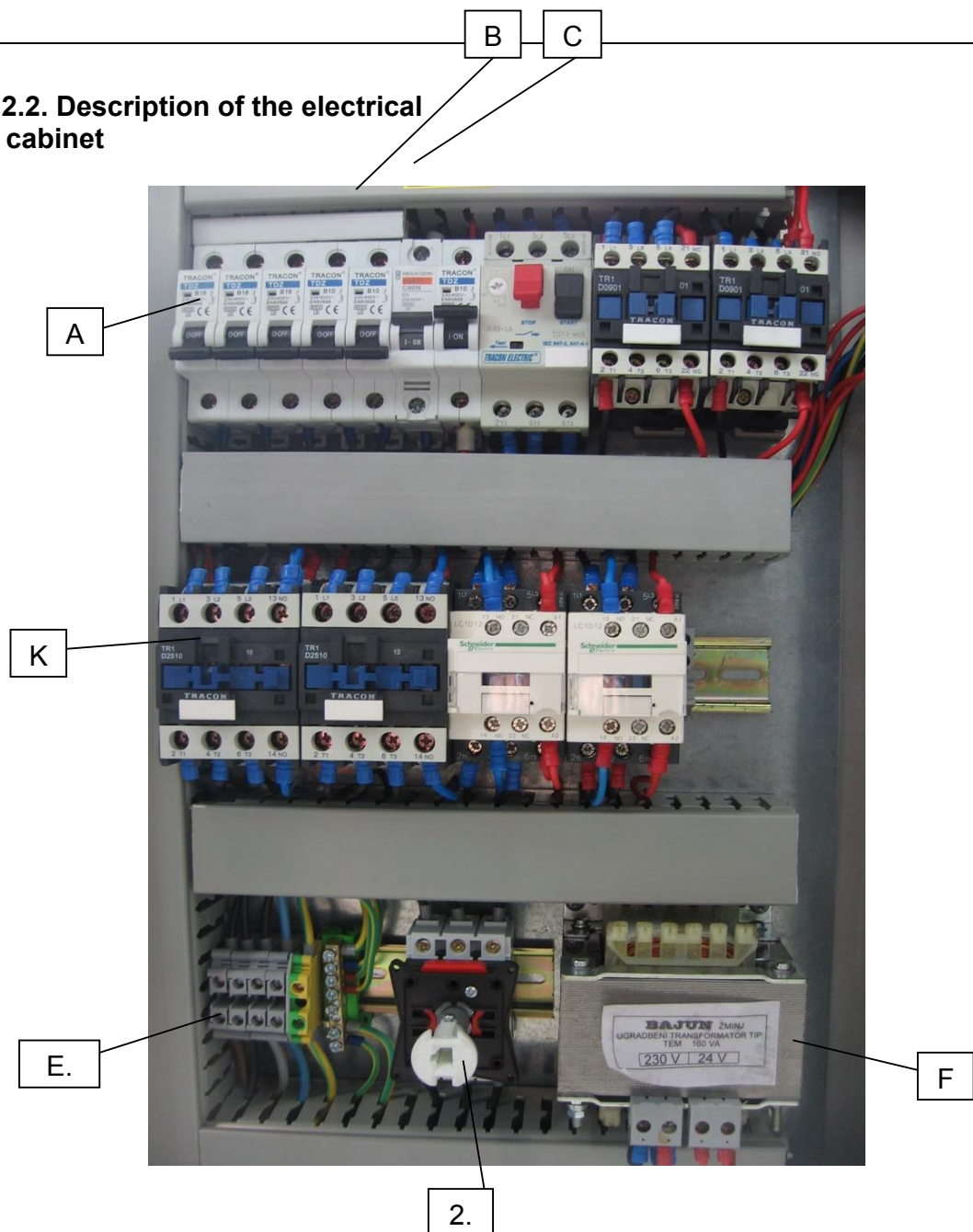
Machine contains following parts:

1	Wheel
2	Side table legs
3	Side table surface
4	Main switch
5	Basket lifting button
6	Basket lowering button
7	Doughnut drainer
11	Oil draining tup
12	tub
13	Steam generator
14	Chamber door
15	Tub cover
16	Tray trolley
17	Tray from the trolley
18	Basket frame
19	Basket rotating lever
20	Electric cabinet
21	Managing box
22	Oil heater housing
23	Back cover
24	Basket shaft height
25	Oil heater plug
26	Water container wheel
27	Oil heater safety thermostat
28	Water heater safety thermostat
29	Screw for machine ground
30	Inscription plate



29. Screw for machine ground

## 2.2.2. Description of the electrical cabinet



	OPIS / DESCRIPTION	KOM. / PCS.	OZNAKA /	PROIZVOĐAČ / MANUFACTOR	KARAKTERISTIKE / CARACTERISTICS
2	Main switch	1	+GRO-S1	Telemecanique	3-polna
24	Safety thermostat air heaters	1	+GRO-S3	Metalflex	115-10 0C
A	Autom. switch	3	+GRO-F1...3	TRACON	B16
B	Autom. switch	3	+GRO-F4,5,7	TRACON	B10
C	Autom. switch	1	+GRO-F6	TRACON	C1
D	Contactor	4	+GRO-K1,K2 +GRO-K3	TRACON	10-25A 2,5-4A
E	Terminal blocks	6			
F	Transformer	1	+GRO-T1	BAJUN	160VA, 230V/24V



### 2.2.3. Description of the commands of the oil heater and electric housing



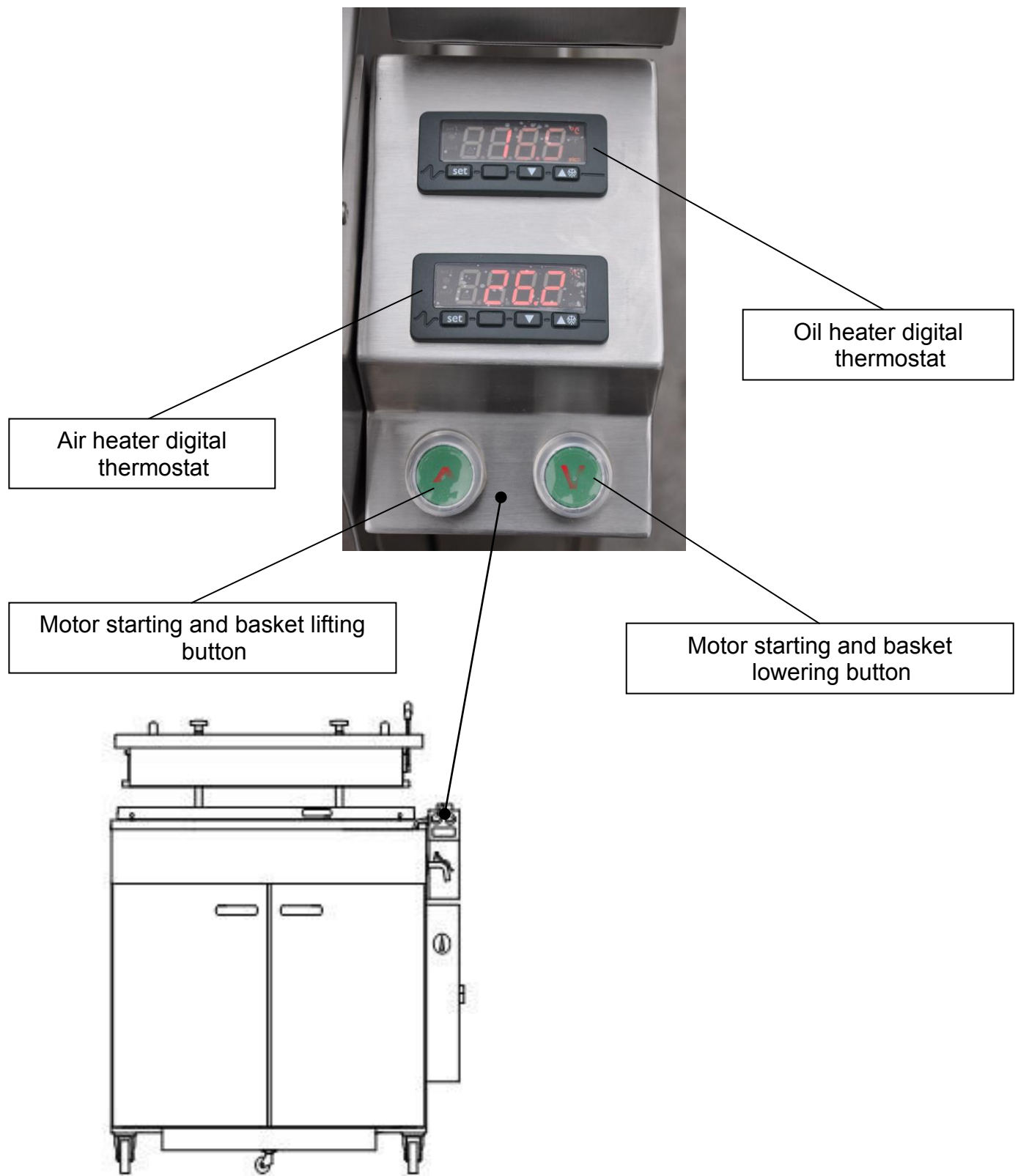
24. Safety thermostat of  
air heater

Main switch

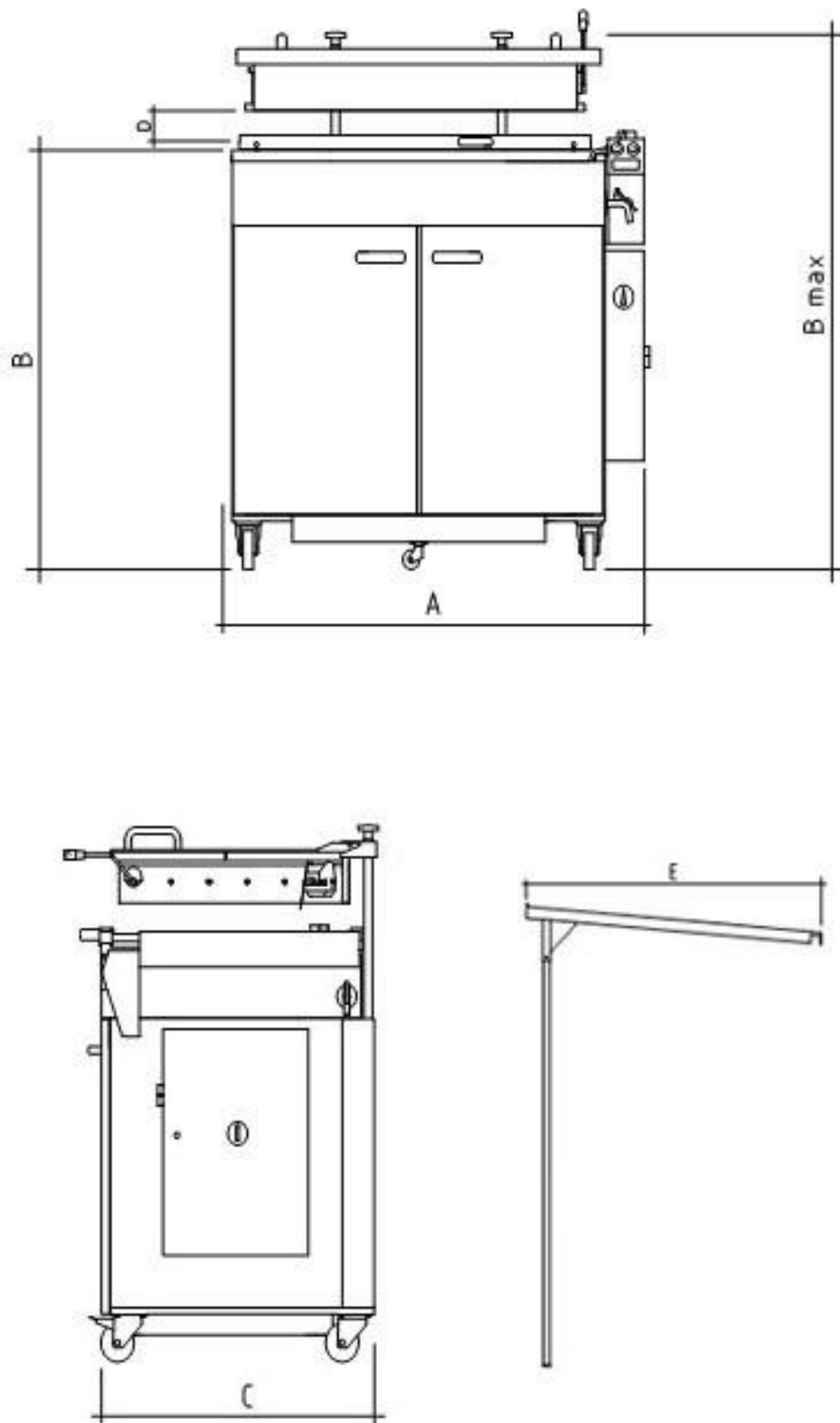


Safety thermostat of oil  
heater

## 2.2.4. Description of the commands on the managing box





## 2.3. Dimensions and other characteristic data



Technical details	FRY36SS (FRY36SC )	FRY48SS (FRY48SC )	FP-60BK (FRY60SC )
A – The machine length without side plate (mm)	860	1080	1280
E – Side plate length (mm)	735	926	1118
Length of the machine with the side plate	1595	1942	2350
C – Machine width (mm)	820	820	820
B – Working height of the machine (mm)	1075	1075	1075
B max – Maximum height of the machine (mm)	1370	1370	1370
D – Basket lifting height (mm)	106	106	106
Machine weight without oil (kg)	120	150	210
Socket tension (V/Hz)	3x400V / ~50Hz	3x400V / ~50Hz	3x400V / ~50Hz
Socket power (kW)	7,4 (8,2)	7,4 (8,6)	9,2 (10,4)
Frying capacity (pcs)	36	48	60
Tub oil volume (l)	43	55	67
Trolley capacity (pcs)	360	480	600
Maximum batch load on basket frame (kg)	10	10	10
Level of protection	IPX4	IPX4	IPX4

## 2.4. Inscription plate and the product coding system

	
	<p>Made in Italy</p>
MODELLO MODEL	<input type="text"/>
N° DI SERIE SERIAL No	<input type="text"/>
ANNO YEAR	<input type="text"/>
VOLT - Hz	<input type="text"/> <input type="text"/>
AMPERE	<input type="text"/>
KW	<input type="text"/>
Kg	<input type="text"/>

### 3. THE INSTALLING AND USING MANUAL

#### 3.1. FOREWORD

Following the EU 98/37/cee directions and within this manual, the following definitions are given:

- 1)"Danger zone"-any area in/or near the machine where the presence of the person exposed to a danger means danger for safety and health of that person.
- 2)"Exposed person"-any person who is completely or partly present in the danger zone.
- 3)"Operator"-a person or persons in charge of installing, operating, maintaining, cleaning, fixing and transporting of the machine.

#### 3.2. The working space settlement

The space where the machine is to be installed, provided it is meant for production, including the bakery, should meet the following conditions:

- There should be openings large enough for the biggest and bulkiest parts of the machine to pass
- The construction characteristics should fit the valid regulation
- There should be electric installation according to the regulation, and the earthing installation and insert plate should be particularly taken care of, and there should be protective devices against too high tensions and short circuits. Nominal power mark is placed on the inscription table.

Electric installation should completely be realized, maintenance and occasionally controlled by trained person who can assure for every action that it is done according to the regulation and "professional rules".

### 3.3. Machine transportation

The fryer is delivered without the frying oil and fixed on a palette in an appropriate package agreed. IF, when delivered, the visible faults are spotted the producer should be notified at once. The transporter should be notified for the faults occurred during the transportation.

The forklift is needed for manipulation and transportation. Prior to unloading it is needed to control the package to see if it is damaged in transportation, so that the machine does not slide from the palette.

**THE MACHINE SHOULD BE  
UNLOADED FROM THE  
PALETTE ON THE FLOOR,  
NOT USING THE FORKLIFT!**



Otherwise, the housing and the steam generator could be damaged. Special care should be taken when placing the machine on the ground, so that the wheels are not damaged.

### 3.4. The installation

Prior to the installation it is necessary to:

1. Place the machine to the appropriate place, obeying the 3.3 chapter notes
2. Lock the front wheels (pos.1)
3. Adjust the side table legs (pos.2) and adjust the side table (pos.3) to the left side of the tub
4. Make sure the power of the net fits the power noted on the plate of the machine, and ground machine
5. Plug the machine to the electrical net (pos.U)
6. Turn on the main switch (pos.4)

7. Check the basket lifting and lowering, with this also you check electric motor of basket:  
-left button-UP-basket lifting  
-right button-DOWN-basket lowering

8. Lift the baskets and check for undisturbed rolling of the drainer (pos.7) on the length edges of the tub and side table

9. Put the drainer on the side table and low the baskets on lower position

10. Check the inside switches of the oil and water heaters work correctly by turning the thermostat (pos.8. and9)

11. Check that the oil spout tap is closed (pos.11), and padlock is on it.

Lift the tub lid and take a tray out of the trolley (pos.17) and put it in the frame (pos18) and push it to the edge. Empty the tray and pull it out. After aprox.3 min. of frying lift the basket by pushing the button (pos.5) and turning the lever (pos.19) and turns the doughnuts to the other side. Bush the button (pos.6) and lower the baskets into the oil.

When the doughnuts are frayed thoroughly, lift the baskets and put the drainer underneath. Lower the baskets and carefully empty the doughnuts.

Lift the baskets to place the drainer with the doughnuts on the side table.

Put the baskets into the oil and repeat with the next batch.

## CAUTION!



**THE ELECTRIC INSTALLER SHOULD BE TRAINED FOR SUCH WORK, AND IT IS CONSIDERED HE HAS KNOWLEDGE NEEDED (PROFESSIONAL AND RAGULATORY) TO OBTAIN PROFESSIONAL RULES.**

The machine should be connected to electric net of the bakery according to the standards and rules given in the manual: the machine is connected using IEC 57 cable and CEE plug with as many poles as noted on the plate. The earthling installation should be present.

The earthling must not be done by water or gas pipes or other special metal parts. Electric cable must not be nearby warm or movable parts of the machine. The cable must not prevent transportation and moving inside the bakery.



**USE THE PROTECTIVE SUIT AND GLOVES WHEN OPERATING THE FRYER BECAUSE OF THE POSIBLE CONNTACT WITH THE HEATED PARTS OF THE MACHINE!**

## 3.5. Starting and operating

Palm oil need to be put in the tub (pos.12), and 2l of water in the water container with the heater (pos.13).

Close the chamber door (pos14) and tub lid (pos.15).

Regulate the oil thermostat (pos.8) to the temperature required (170-190°C), and the fermenting chamber thermostat (pos.9) to the medium.

When the chamber has moistened enough, bring in the trolley (pos. 16) with the trays (pos.17) with doughnuts. The fermenting takes 30 minutes.



## 4. MAINTENANCE NOTES

### 4. 1. Foreword

"Regular maintenance" means the sum of all the operations that require no special knowledge to be done safely. All in the 4.2, 4.3 and 4.4 passages should be considered regular maintenance.

**IMPORTANT!**



**Prior to the machine cleaning or electrical closet opening that contains the main socket (pos.20), the heater closet (pos.22) or back lid (pos.23) it is necessary to turn off the main switch (pos.4) and pull out the plug (pos.U) out of the electricity. When cleaning the tub (pos.12) or the water container (pos.13) check the heater temperature. When removing the heater box, is expressly prohibited by this part immersed in water. The machine is to be cleaned by dry or damp cloth. The machine is not to be cleaned with water jet.**

The operator can take the regular maintenance described in 4.2, 4.3 and 4.4 provided he obeys the manual strictly and provided it is said so in the manual.

All the other interventions should be considered "extraordinary maintenance" that should be done by trained staff, or when stated in the manual, the producer authorized staff.

Each page of the manual has a telephone number listed where the questions could be answered.

### 4.2. Oil refilling

Oil level should be controlled daily. The refill should be done as needed, so the minimum level is not below the shaft height of the baskets (pos.24) in the lower position, and is indicated in the bath minimum (MIN) and maximum (MAX) level of oil.

### 4.3. Oil exchange

It is advisable to replace old oil every 350-400 firing, because of loss of oil properties are not getting the quality baked donuts. Before exchanging oil, the temperature should be under 50°C, which is checked by observing the oil thermostat (pos.8), when it is turned on and off at that temperature approximately. Lift the baskets out of the oil

to drain. Put the appropriate hose on the oil tap (pos.11), remove padlock from it, put a container underneath and open the tap. When the oil drains, close the tap, and return padlock to oil tap.

Turn off the main switch; pull out the plug out of electric net, and the oil heater (pos.25) out of socket under the main switch closet.

**Take the oil heater closet with the heaters out of the tub, and is expressly forbidden this part immersed in water.** Clean the tub and the heaters of any sediment.

Place the heaters to the original positions and put the new oil into the tub up to the basket shaft height level.

#### 4.4. Water refilling

Water level into the water container should be checked daily (pos.13) and refilled when needed.

#### 4.5.Possible operating problems

The fault	Possible cause	The solution
The machine won't start	No electricity	Wait for the electricity or start the generator (if there is one)
	The machine is not connected to the net	Plug the electrical cable into the net
	The fuse is off	Turn the fuse to the position 1
	Broken fuse	Change the fuse
	Broken plug	Change the plug
The oil won't heat or is not heated enough	The heater doesn't work	Change the heater(empty the oil and remove the baskets)
	Broken thermostat	Check the thermostat and change if needed
	Broken safety thermostat	Check the thermostat and change if needed
Poor fermenting/ broken steam generator	Water heater doesn't work	Change the heater(empty the water and remove the water container)
	Broken thermostat	Check the thermostat and change if needed
	Broken safety thermostat	Check the thermostat and change if needed
Unevenly frayed doughnuts	One or more heaters broken	Change the broken heater (empty the oil and remove the baskets)
The baskets won't lift	The motor out of order	Check the power, if needed change the motor
		Check the fuse in electric box
	Cog-wheel out of order	Change the cog-wheel

#### **4.6. Servicing of the machine (extraordinary maintenance)**

The servicing, fixing and spare parts delivering  
are done by MACPAN

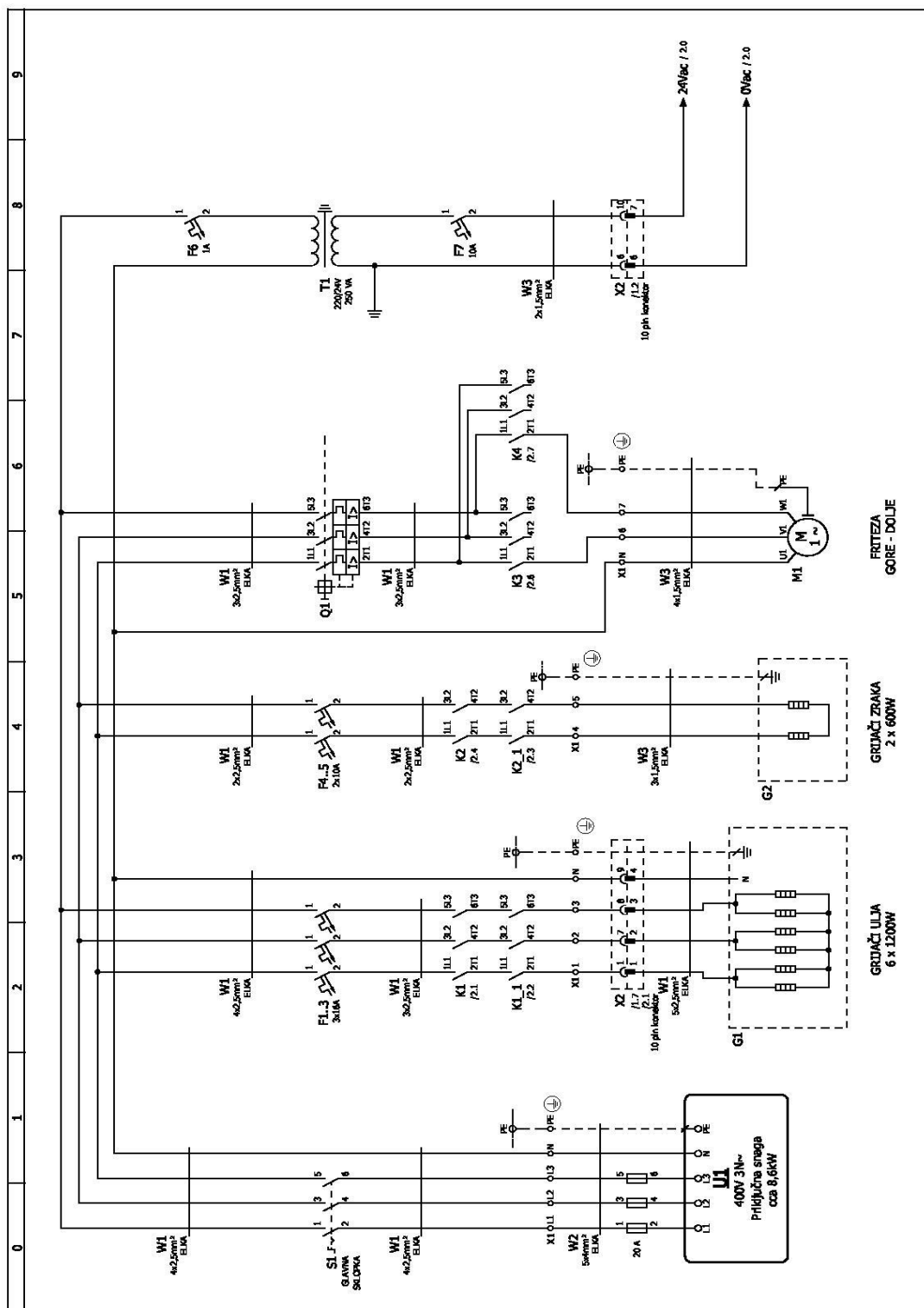
#### **4.7. Spare parts list**

The spare parts list is with the producer.

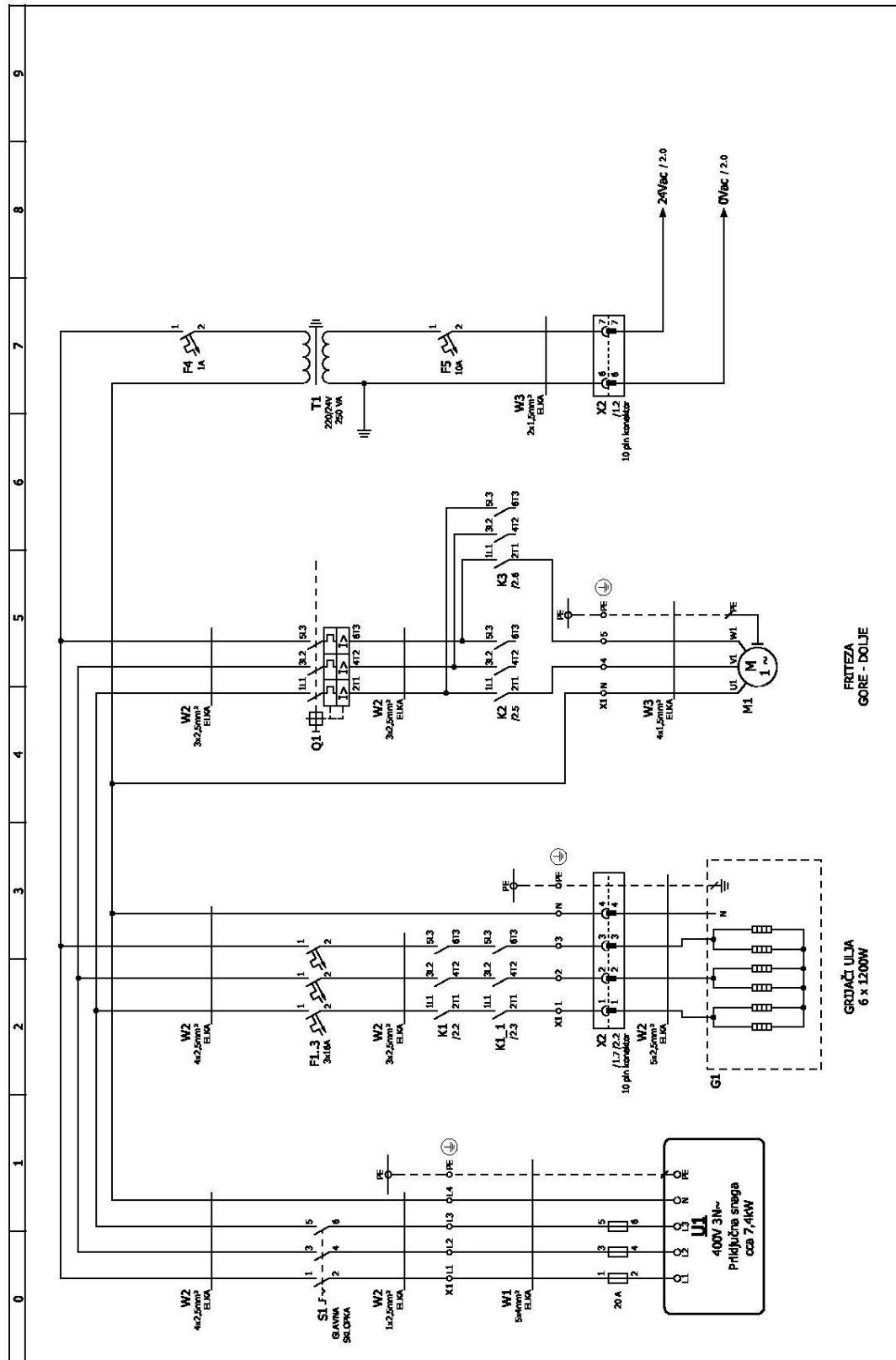
# SCHEMA ELETTRICO

## 4.8. Electrical diagrams

### 4.8.1. Electrical diagram of the joined modules

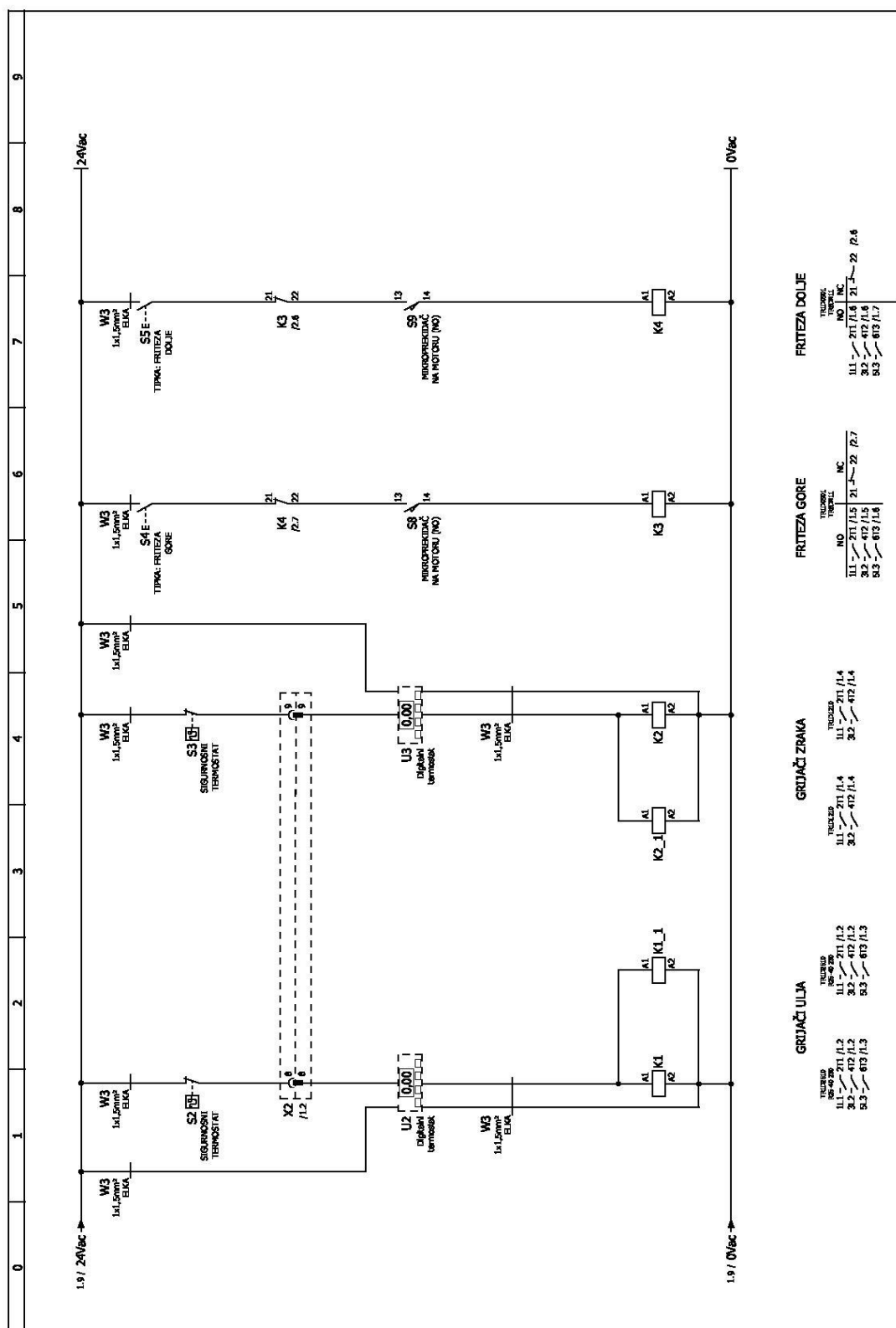


# SCHEMA ELETTRICO

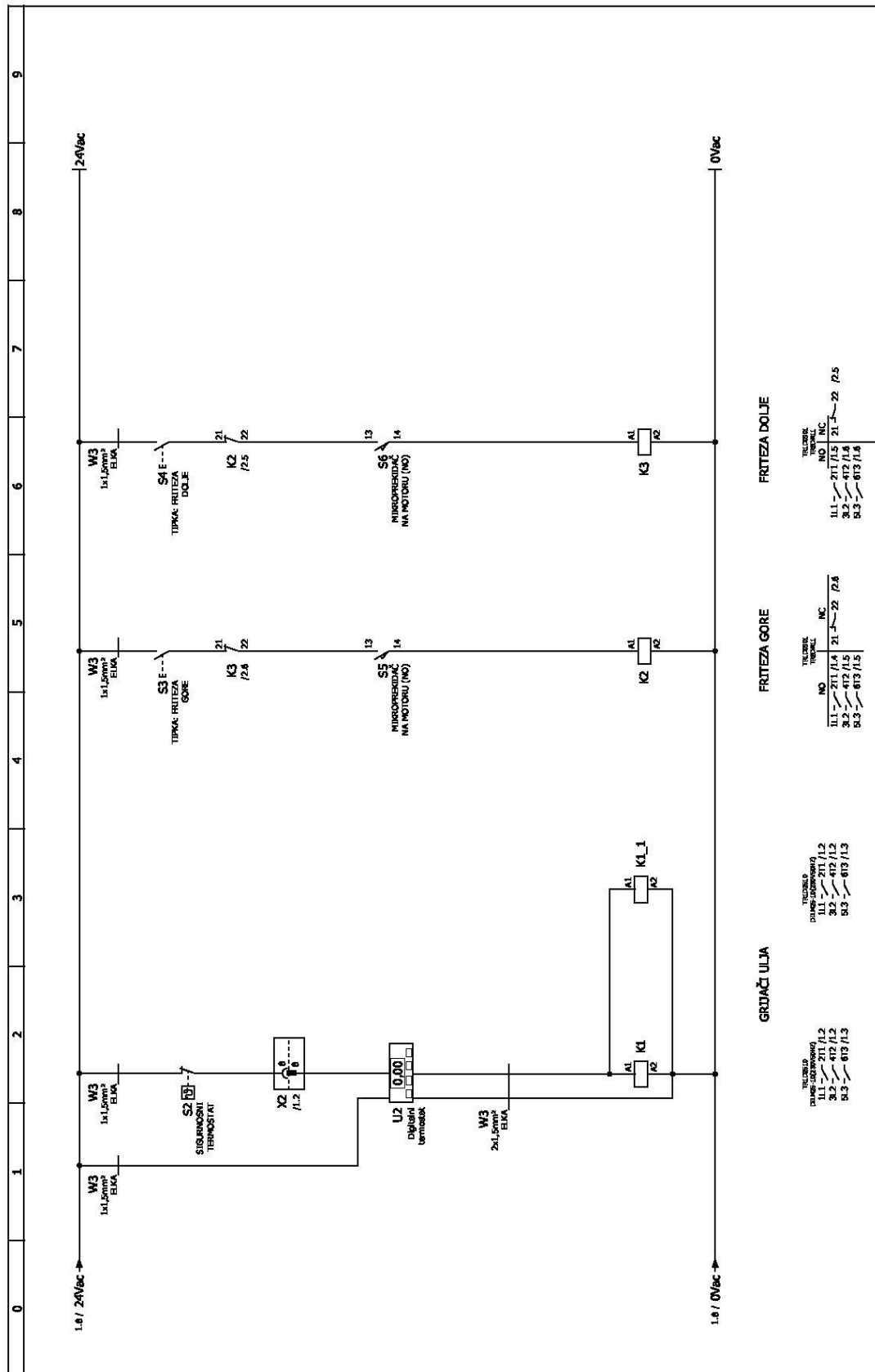


# SCHEMA ELETTRICO

## 4.8.2. Electrical diagram of the managing circuit



# SCHEMA ELETTRICO



## 5. INGREDIANTS SAFETY AND HYGIENIC NOTES

### 5.1. General

#### Danger analysis in 5.2, 5.3, 5.4 and 5.5 is based on

- 1) knowing the condition of using the machine described in using manual
- 2) assuming the machine is ment for bakery, including frying and baking
- 3) assuming the operators is familiar with the risks for the working space
- 4) assuming that unemployed persons and other do not have any access to the working space.

### 5.2. Mechanical dangers and risks

According to EU directions nr.98/37/CEE we list the list zones, description and measures to be taken in order to minimize the risk.

#### 5.2.1. Danger zone 1

The risk of getting jammed, pulling or squeezing of upper limbs between the tub and tub lift.

Carefully lift the lid so that it does not slide and hurt the operator.

#### 5.2.2. Danger zone 2

The risk of getting jammed, smashing or pulling of all the limbs between the chamber door and the housing.

Carefully open and close the chamber door so that it does not hurt the operator.

#### 5.2.3. Danger zone 3

The risk of getting jammed, pulling or squeezing of all the limbs when pulling the drainer under the baskets and placing on the side table.

Carefully pull the drainer so it does not slide from the trails and cross the edge and hurt the operator.

#### 5.2.4. Danger zone 4

Danger of getting jammed, pulling or squeezing of upper limbs between the basket carrier and tub.

Carefully operate the lifting and lowering mechanism to avoid the hurt of the operator. Never place hands under the lifted baskets.

### 5.3. High temperature dangers

The danger is present each time the machine operates and after it is turned off (before it cools).

When operating the machine the protective suit and gloves should be used because of the possibility of contact with the heated parts.

### 5.4. Fire danger

The danger of fire is present if the oil level is below the minimum indicated in oil tub.

When operating the machine it is necessary to check oil level in oil tub after 8-10 fry.

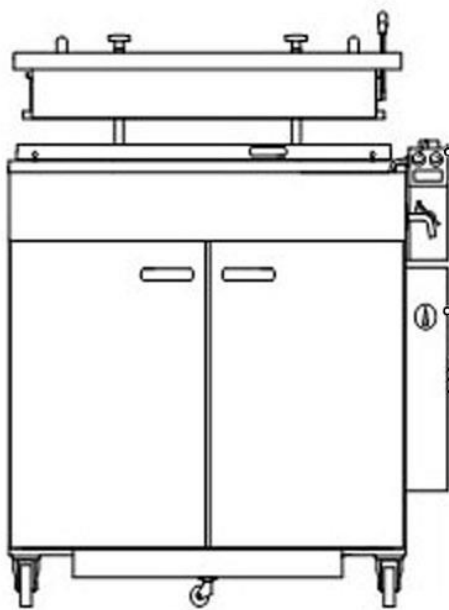
### 5.5. Electrical hazard

All the electric parts, including signal parts are projected and made in accordance to the safety standards and technical specifications of EN 60204-1 standard.

### 5.6. Safety marks

There are following safety labels placed on the fryer, as shown on the picture.





**DANGER!**  
HOT OIL SPLASHING

**ALWAYS USE SAFETY  
EQUIPMENT**

**DANGER!**  
 **WATCH YOUR  
HANDS!**

**ATTENTION!**  
DO NOT OPEN WHILE MACHINE IS  
CONNECTED ON ELECTRICAL NETWORK  
BEFORE OPENING DISCONNECT AC  
CORD FROM OUTLET

**DANGER!**  
 **ELECTRICAL HAZARD**

**ELECTRICAL CABINET  
CAN BE OPENED ONLY  
BY AUTHORIZED  
PERSONNEL**

**DANGER!**  
HOT OIL SPLASHING

**ALWAYS USE SAFETY  
EQUIPMENT**

**DANGER!**  
 **WATCH YOUR  
HANDS!**

**ATTENTION!**  
DO NOT OPEN WHILE MACHINE IS  
CONNECTED ON ELECTRICAL NETWORK  
BEFORE OPENING DISCONNECT AC  
CORD FROM OUTLET

**DANGER!**  
 **ELECTRICAL HAZARD**

Make sure the colors and letters are visible. At any sign of the damaging they should be replaced as soon as possible. New ones can be purchased at the producer's.

**ELECTRICAL CABINET  
CAN BE OPENED ONLY  
BY AUTHORIZED  
PERSONNEL**

**ELECTRICAL CABINET  
CAN BE OPENED ONLY  
BY AUTHORIZED  
PERSONNEL**

## 5.7. Ingredients hygienic conditions

The machine described in this manual should be considered ment for the food processing according to the law, on the day of the delivery by the producer; the validity of the fryer will be considered only under the condition that it is cleaned daily, kept and controlled in good condition, if every damaged, worn out and part that does not meet the safety and hygienic standard in contact with the food (dough, water, flour and so on) is replaced immediately.

The producer refuses any responsibility for the inappropriate work caused by impurity and poor maintenance of any part of the machine.

It is advised to clean the flour and/or parts of the dough placed underneath and/or around the machine.

**Descriptions, displays, weighs and measures given in this publications are not obligatory. The manufacturer keeps the right of tehcnical improvements for any reason (constructive or commercial) without prior notice any time without the manual being subject to change, provided the basic characteristics of the described type of the fryer is unchanged.**





