

CE



USER AND MAINTENANCE GUIDE

DOUBLE SPIRAL MOBILE MIXER



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1) ENTRY

Attention should be paid to the warnings described in this section and indicated on the system labels, and absolutely not work without taking the necessary precautions.



THE FOLLOWING SAFETY RULES MUST BE STRICTLY FOLLOWED. OTHERWISE, SERIOUS ACCIDENTS RESULTING IN SERIOUS INJURY OR DEATH MAY OCCUR!

2) CAUTIONARY SIGNS



3) WHAT TO DO BEFORE STARTING WORK

What to do before you start working to make a healthy operation with the system;

1. It is necessary to check whether there is a situation that will prevent or pose a danger to the operation of the system or to perform operations.
2. If there is no danger, electricity must be supplied to the system by opening the switch on the main panel.
3. If there are factors that prevent the system from working, they should be eliminated after the system is energized.

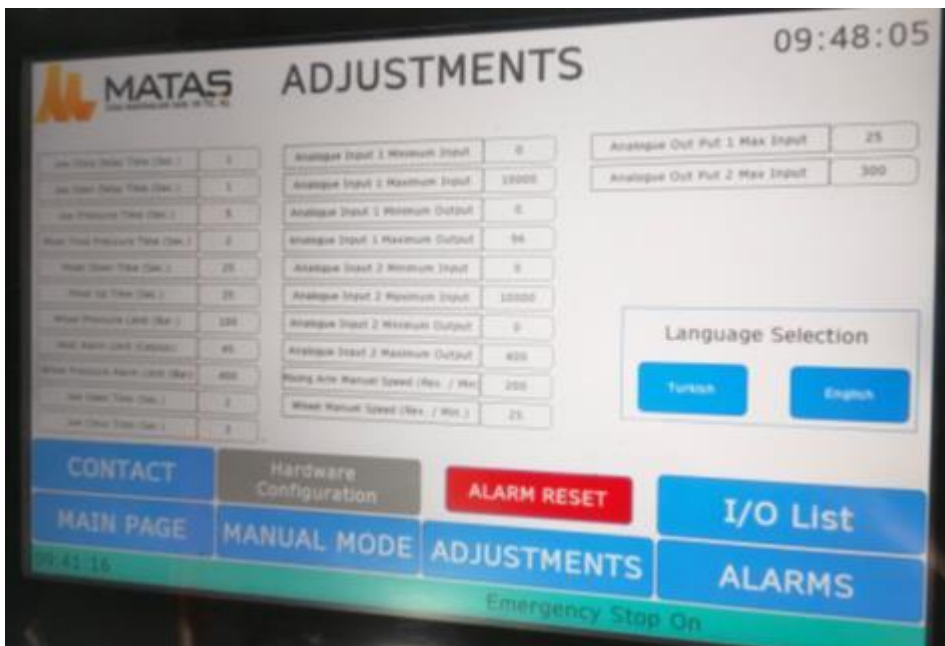
System control must be performed through the operator panel. The machine has 3 motors.

- 1 anchor motor,
- 2 boiler slewing wheel motor and hydraulic pump motor.

The system has 3 hydraulic driven motion mechanisms.

- 1 jaw(boiler Holder),
- 2 anchors up and down Movement System,
- 3 boiler slewing (wheel back and forth).

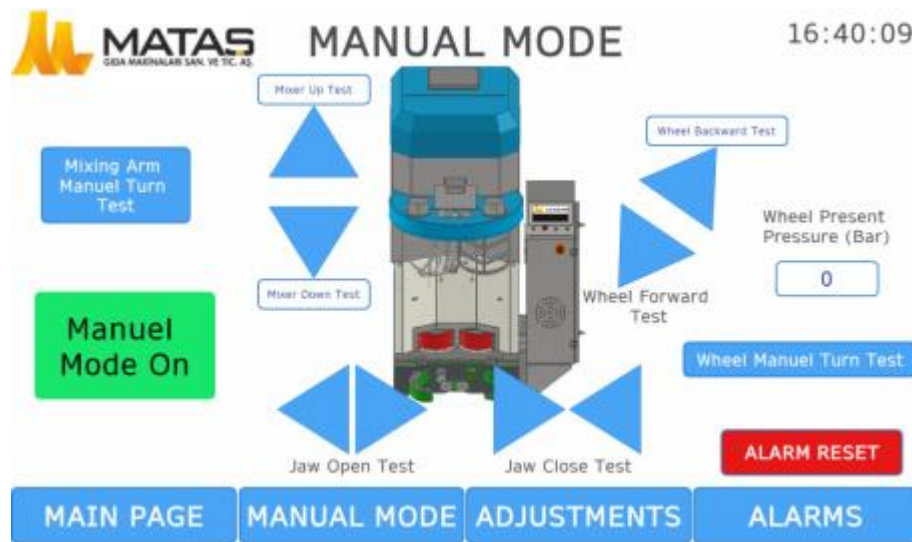
4) ADJUSTMENT



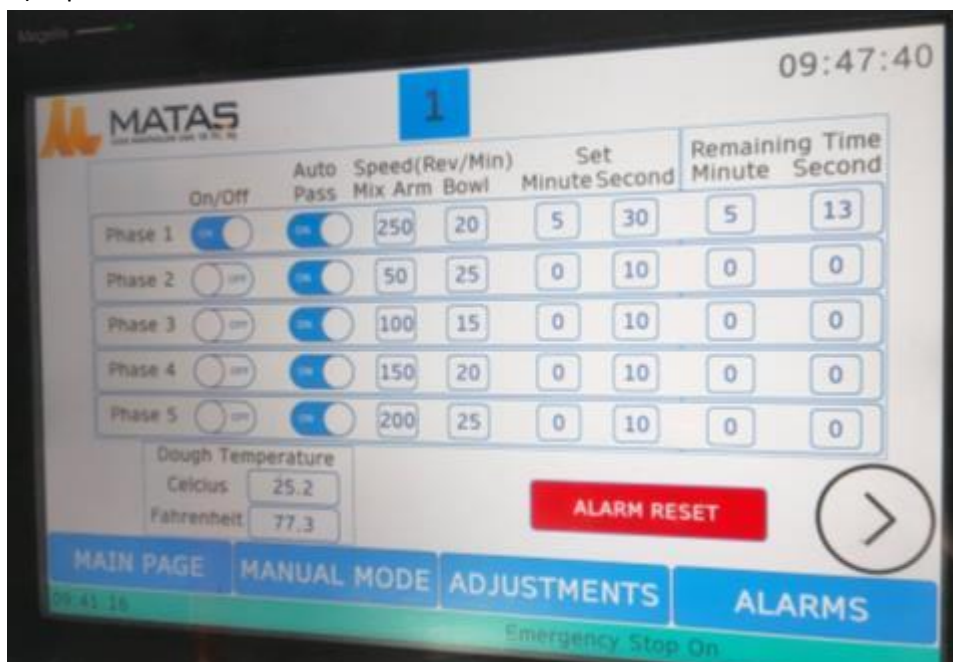
- 1) jaw closing delay: The time to be added to the end of the jaw closing time.
- 2) jaw opening delay: The time to be added to the end of the jaw opening period.
- 3) Wheel pressure time: This is the time of the wheels pressing the boiler to move forward. If it does not reach the desired pressure during this time, it gives an error.
- 4) Mixer last printing time: The mixer will stop hydraulic at the end of this time after seeing the sensor below.
- 5) Mixer down time: It will give error if it does not see the sensor below in the specified time.
- 6) mixer up time: If it does not go up in the specified time, it will give an error.
- 7) wheel pressure limit: This is the limit to be pressed on the boiler. The wheel moves forward. As for the specified value, it stops.
- 8) temperature alarm limit: Error occurs when dough temperature reaches the specified value.
- 9) wheel pressure alarm limit: An alarm occurs if the wheel pressure reaches this limit.
- 10) jaw opening time: Jaw opening movement occurs during the specified time.
- 11) jaw closing time: Jaw closing movement occurs during the specified time.
- 12) anchor manual speed: Anchor speed in Manual movement
- 13) wheel manual speed: Wheel speed in Manual movement
- 14) Analog input 1 min input: Analog input for temperature measurement process. Set to 0-Set to 10V.
- 15) Analog input 1 max input: Analog input for temperature measurement process. Set to 0-10V set to 0-10V set to 10000.
- 16) Analog input 1 min output: Used to verify the Read temperature value. The sensor measures 0-100 degrees Celsius. Set it to 0.
- 17) Analog input 1 max output: Used to verify the Read temperature value. The sensor measures 0-100 degrees Celsius. set to xx.

- 18) Analog input 2 min input: Analog input for pressure measurement process. Set to 0 Set to 0-10V set to 0 Set to 0-10V.
- 19) Analog input 2 max input: Analog input for pressure measurement process. Set to 10000, set to 0-10V.
- 20) Analog input 2 min output: Used to verify the Read pressure value. The sensor measures from xx to xx bar. set to xx.
- 21) Analog input 2 max output: Used to verify the Read temperature value. The sensor measures from xx to xx bar. set to xx.
- 22) Analog Output1 max out: Used to verify wheel speed in rpm. Start the engine at 60 Hz to set the correct value. Enter here the round value of the wheel per minute.
- 23) Analog Output2 max out: Used to verify anchor speed in rpm. Start the engine at 60 Hz to set the correct value. Enter here the anchor's round value per minute.

Manual Mod: Manual mode is for testing purposes. It is used to verify that the components of the machine are working correctly.



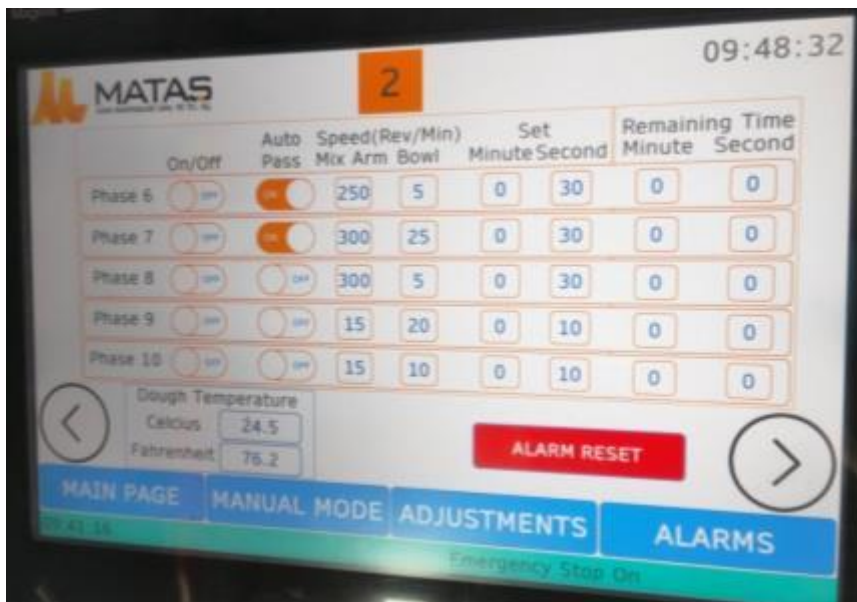
- 1) press the open manual mode button to activate the manual control.
- 2) press the anchor manual rotate button to test anchor movement.
- 3) press the mixer up arrow button to test the mixer Up movement.
- 4) press the mixer down arrow button to test the mixer down movement.
- 5) press the jaw closing arrow button to test the jaw closing movement.
- 6) press the jaw opening arrow button to test the jaw opening movement.
- 7) press the wheel forward arrow button to test the wheel press forward movement.
- 8) press the wheel back arrow button to test the wheel back movement.
- 9) press the wheel manual rotate button to test wheel movement.



Automatic Mod:

-Use the active/passive button to activate the stages. If the stage is not active, it automatically moves to the next stage.

-Use the auto switch buttons to automatically switch between stages. For example, if automatic switching is on after Stage 1 is completed, direct Stage 2 will work. Otherwise, the operator will be expected to press the start button.



- Speed information must be entered separately for each stage.
- In the Set section, the working Times of the stages must be entered.
- Stage 1 and Stage 5 to 1. ON PAGE 2, between Stage 6 and stage 10. On Page 3, between stage 11 and stage 15. It is shown on the page.
- The machine stops in case of emergency stop or alarm. After removing the alarm, the mixer goes up. By pressing the auto Continue button, the process can be resumed from where it left off. If the Start button is pressed, the procedure will start from the beginning.

5) DRIVER PARAMETERS

	PARAMETER	SET
DRI- > CONF > FULL > SIM >	BFR	60
DRI- > CONF > FULL > SIM >	NCR	65
DRI- > CONF > FULL > SIM >	NSP	1730
DRI- > CONF > FULL > SIM >	ITH	70
DRI- > CONF > FULL > DRC >	CTT	uuC
DRI- > CONF > FULL > I_O >	RRS	NO
DRI- > CONF > FULL > FLT > RST >	RSF	LI2
DRI- > CONF > FULL > FUN- > RPT >	BRA	NO

	PARAMETER	SET
DRI- > CONF > FULL > SIM >	BFR	60
DRI- > CONF > FULL > SIM >	NPR	2,2
DRI- > CONF > FULL > SIM >	NCR	8,3
DRI- > CONF > FULL > SIM >	NSP	1700
DRI- > CONF > FULL > DRC >	CTT	uuC
DRI- > CONF > FULL > I_O >	RRS	NO
DRI- > CONF > FULL > FLT > RST >	RSF	LI2
DRI- > CONF > FULL > FUN- > RPT >	BRA	NO
DRI- > CONF > FULL > SIM >	ITH	10

6) ELECTRICAL SCHEMA

First Level	Structure description	Second Level	Structure description	Third Level	Structure description
=COMM	Common pages	+COVER	Cover page	#PSD	Power Supply Distribution
=WIRD	Wiring diagramm	+CONT	Table of Content	#SAF	Safety
=REPORT	Report pages	+INFO	Informations	#PLC	PLC Pages
		+DEF	Definitions	#HMI	Human Machine Interface
		+LAYOUT	Layout Pages	#CTRL	Control
		+TERP	Terminal plan	#MOV	Movement
		+PLUG	Plug Connection Plan	#COM	Communication
		+CABLE	Cable Overview & Connection Plan		
		+PART	Partlist		
		+ORDER	Orderlist		
		+MC	Main Cabinet		

COVER I							
		Date:	Dst.	RANZAS	Mobil Spinal Mikser QRS Cepna	Matay Gıda Makineleri San ve Tic A.Ş.	Structure Identifier overview
		Name:	Model	Original	Replacement of		
Modifikation:	Date:	Name:	Model	Original	Replacement of		Page Page 2 / 3

Assignment	Page	Page description	Date	Edited by
=COMM +COVER				
	1	Cover Page	2013/12/12	kjakob
=COMM +CONT				
		Table of Content		
	1	Structure identifier overview	2014/02/27	kjakob
	2	Table of contents	2015/01/22	HRR
	3	Table of contents	2015/01/22	HRR
	4	Table of contents	2015/01/22	HRR
=COMM +INFO				
		Informations		
	1	Disclaimer	2014/01/09	kjakob
	2	Safety Information 1	2014/01/09	kjakob
	3	Safety Information 2	2014/01/09	kjakob
	4	Informations about changes	2014/01/09	kjakob
=COMM +DEF				
		Definitions		
	1	Wiring, Plug and Terminal definitions	2014/11/25	HRR
=COMM +LAYOUT				
		Layout Pages		
	1	Plant Layout	2013/12/19	kjakob
=WIRD +MC #PSD				
		Main Cabinet / Power Supply Distribution		
	1	Power supply Infeed	2014/11/25	HRR
	2	Cabinet Lamp, Socket, Fan	2014/11/25	HRR
	3	Energy Measurement - IHD150	2014/11/25	HRR
	4	Emergency Stop Main Power Supply	2015/01/22	HRR
	5	Power Supply 24V dc	2014/11/25	HRR
	6	Power Supply 24V dc	2015/01/22	HRR
	7	Power Supply 24V dc	2015/01/22	HRR
	8	Power Supply 24V dc	2014/11/25	HRR
	9	Power Supply 0V dc	2015/01/22	HRR
=WIRD +MC #SAF				
		Main Cabinet / Safety		
	1	Emergency Stop	2014/11/25	HRR
	2	Emergency Stop Door Guard	2015/01/22	HRR

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Assignment	Page	Page description	Date	Edited by
=WIRD +MC #SAF	Main Cabinet / Safety			
	3	TH3 Safety module E-Stop	2014/11/25	HMR
	4	TH3 Safety module E-Stop	2014/11/25	HMR
	5	TH3 Safety module Door Guard	2014/11/25	HMR
	6	TH3 Safety module Door Guard	2014/11/25	HMR
=WIRD +MC #PLC	Main Cabinet / PLC Pages			
	1	Assembly layout M241	2015/01/22	HMR
	2	Overview PQ41	2015/01/22	HMR
	3	Overview safety module TH3	2014/11/19	HMR
	4	Overview I/O module TH3	2015/01/22	HMR
	5	Overview I/O module TH3	2015/01/22	HMR
	6	Power supply M241	2015/01/22	HMR
	7	Power supply TH3	2015/01/22	HMR
	8	Power supply TH3	2015/01/22	HMR
	9	Power supply TH3	2015/01/22	HMR
	10	Power supply TH3	2015/01/22	HMR
=WIRD +MC #HMI	Main Cabinet / Human Machine Interface			
	1	HMI Magelis Panel Power Supply	2014/11/25	HMR
=WIRD +MC #CTRL	Main Cabinet / Control			
	1	Digital inputs PQ41	2015/01/22	HMR
	2	Digital inputs PQ41	2015/01/22	HMR
	3	Digital inputs PQ41	2015/01/22	HMR
	4	Digital outputs PQ41	2015/01/22	HMR
	5	Digital outputs PQ41	2015/01/22	HMR
	6	Digital outputs PQ41	2015/01/22	HMR
	7	Digital inputs TH3	2015/01/22	HMR
	8	Digital inputs TH3	2015/01/22	HMR
	9	Digital inputs TH3	2015/01/22	HMR
	10	Digital inputs TH3	2015/01/22	HMR

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Assignment	Page	Page description	Date	Edited by
=WIRD +MC #CTRL				
Main Cabinet / Control				
	11	Digital inputs TM3	2015/01/22	HBR
	12	Digital outputs TM3	2015/01/22	HBR
	13	Digital outputs TM3	2015/01/22	HBR
	14	Digital outputs TM3	2015/01/22	HBR
	15	Analog inputs TM3	2015/01/22	HBR
	16	Analog outputs TM3	2015/01/22	HBR
	17	Analog inputs TM3	2015/01/22	HBR
	18	Incremental Encoder	2014/11/25	HBR
	19	Remote operator panel wireless pushbuttons	2015/01/22	HBR
	20	Drive 1 Control Terminals Allvar 32	2015/01/22	HBR
	21	Drive 2 Control Terminals Allvar 32	2015/01/22	HBR
	22	Brake Contactor Drive 1+2	2014/11/25	HBR
	23	Drive 3 - LXM28 Control Terminals - CN1 connection module	2015/01/22	HBR
	24	Drive 4 - LXM28 Control Terminals - CN1 connection module	2015/01/22	HBR
	25	Drive 3 & 4 - LXM28 STO connector - CN8	2015/01/22	HBR
=WIRD +MC #MOV				
Main Cabinet / Movement				
	1	Drive 1 Variable speed drive Allvar 32	2014/11/25	HBR
	2	Drive 2 Variable speed drive Allvar 32	2015/01/22	HBR
	3	Drive 3 Servo drive Lockum 28	2015/01/22	HBR
	4	Drive 4 Servo drive Lockum 28	2015/01/22	HBR
	5	Motor 5 Motor Starter Controller Trefas U	2014/11/25	HBR
=WIRD +MC #COM				
Main Cabinet / Communication				
	1	EtherNet switch	2014/11/25	HBR
	2	Ethernet topology	2015/01/22	HBR
	3	Modbus topology	2015/01/22	HBR

		Date		Melayu Gila Makluman San etc	Table of contents		+INFO+
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		By				c = CORR	
		Subject					Page

General project information

Equipment Grounding

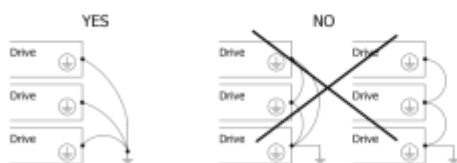
Secure the ground connection of the devices to the protective ground (PE) of your panel at a single point and in conformance with local and national electrical code requirements. Depending on these local and national code requirements, a minimum wire section (gauge) of 10 mm² (6 AWG) may be required to meet standards limiting leakage current.

⚡ ⚡ DANGER

ELECTRIC SHOCK

- Properly ground your panel and equipment before applying power.
- Always comply with local wiring requirements regarding grounding cables and grounding cable shields.
- Ground devices independently at a single point.

Failure to follow these instructions will result in death or serious injury.



- Ensure that the resistance of ground is one ohm or less.
- When grounding several drives, you must connect each one directly, as shown in the figure to the left.
- Do not loop the ground cables or connect them in series.

+CONT/4

			Date	BAKAZIM	Matay Gıda Makineler San ve Tic A.Ş.	Disclaimer	+	CONT	2
			Ed.	BAKAZIM				+	INFO
			Appr		Model Spiral Mikser ÇİBİ Çarpma				Page 1
Modification	Date	Name	Original	Replacement of	Replaced by				Page 6 / 36

General project information

Equipment Grounding

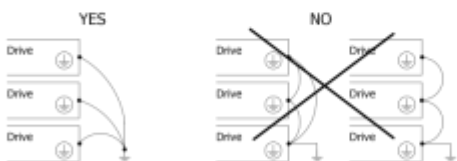
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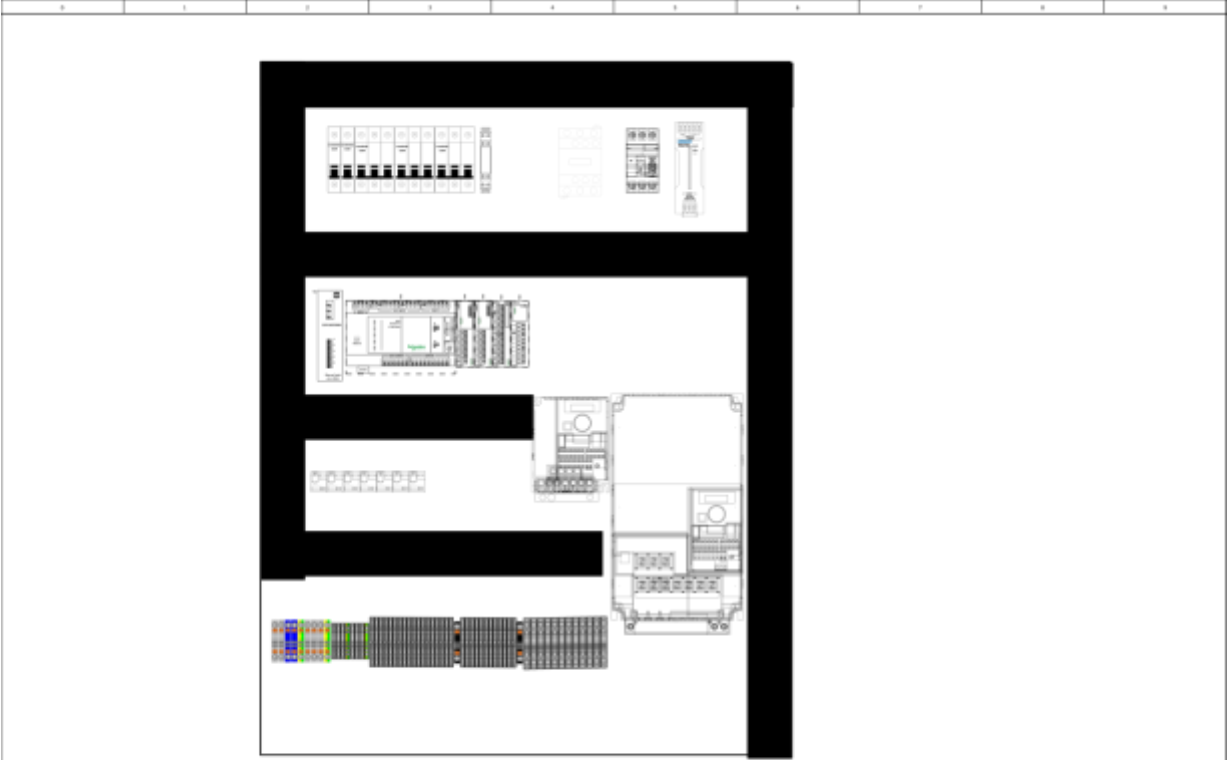
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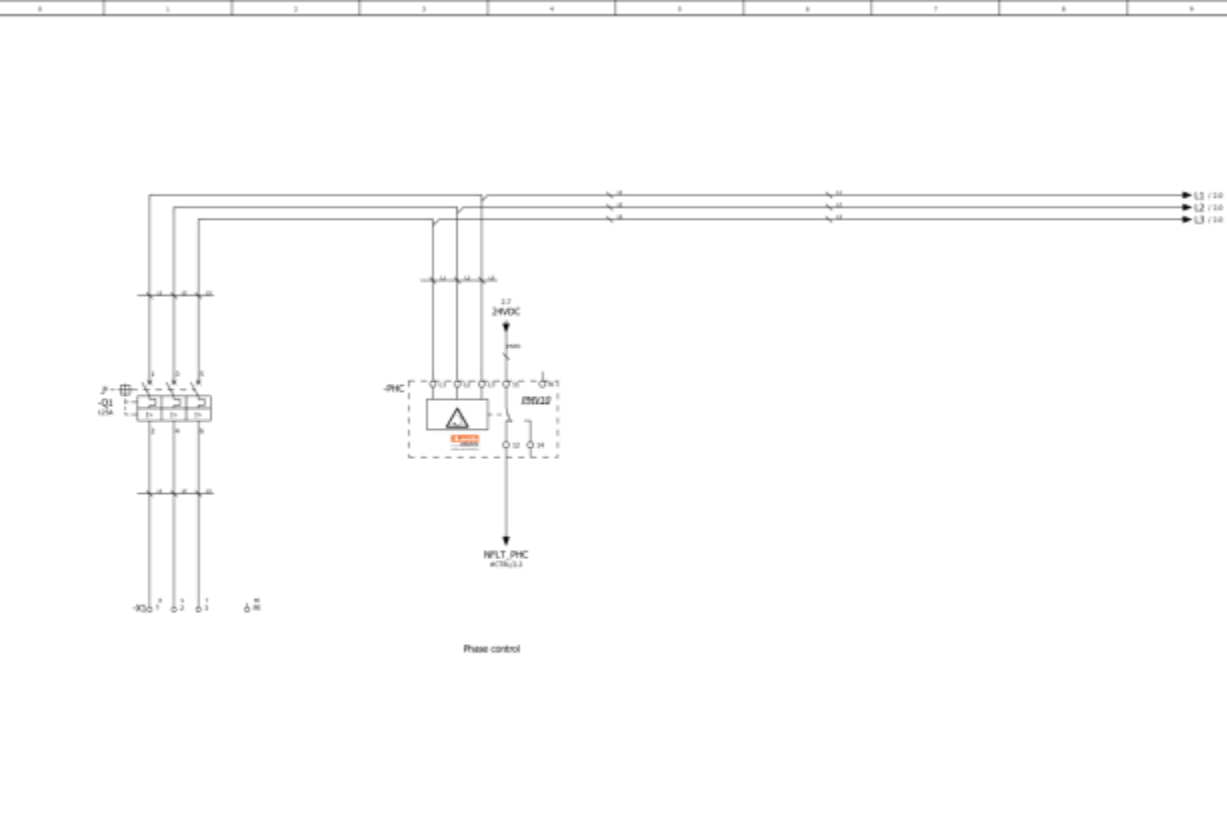
- Ensure that the resistance of ground is one ohm or less.
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3

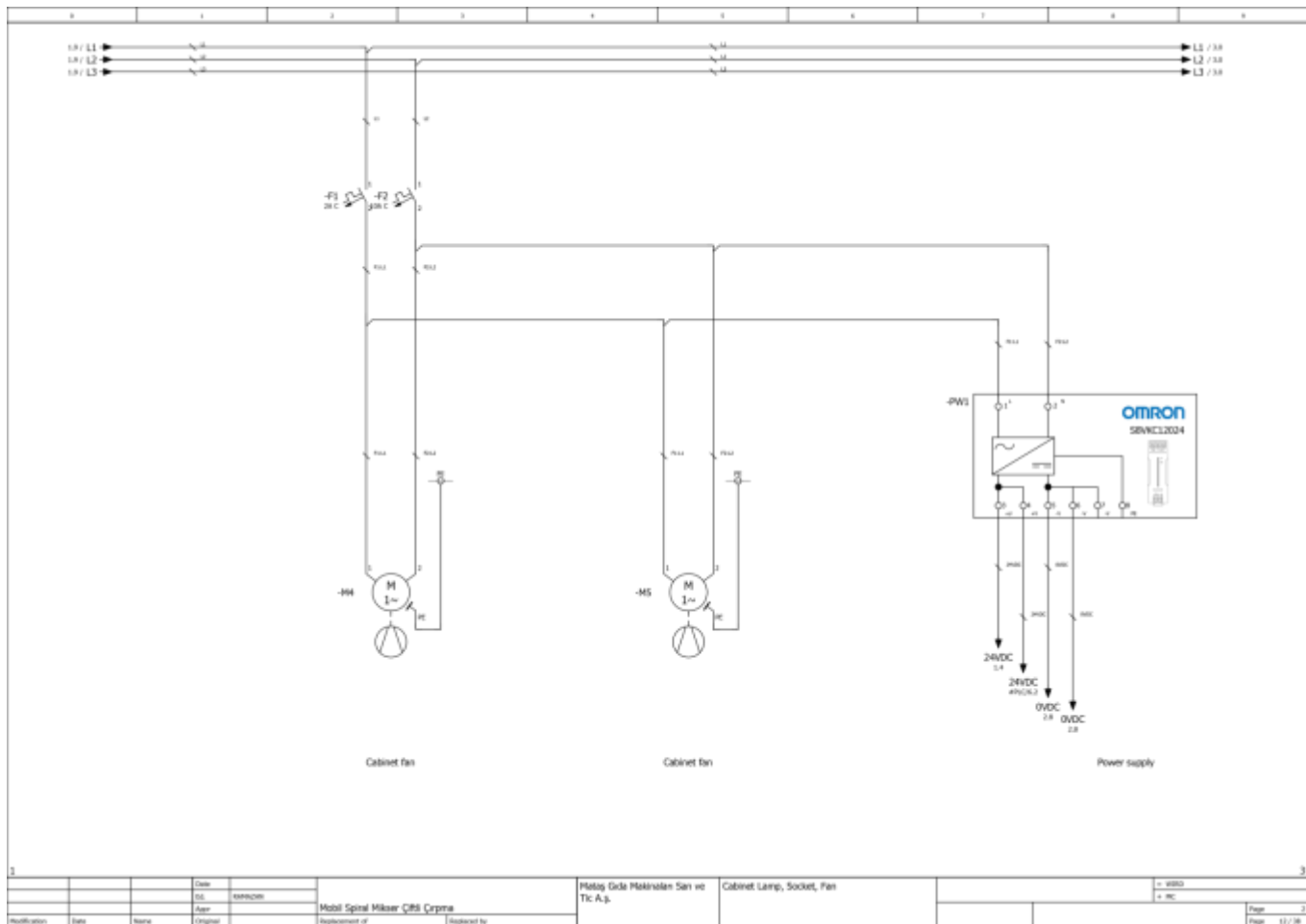
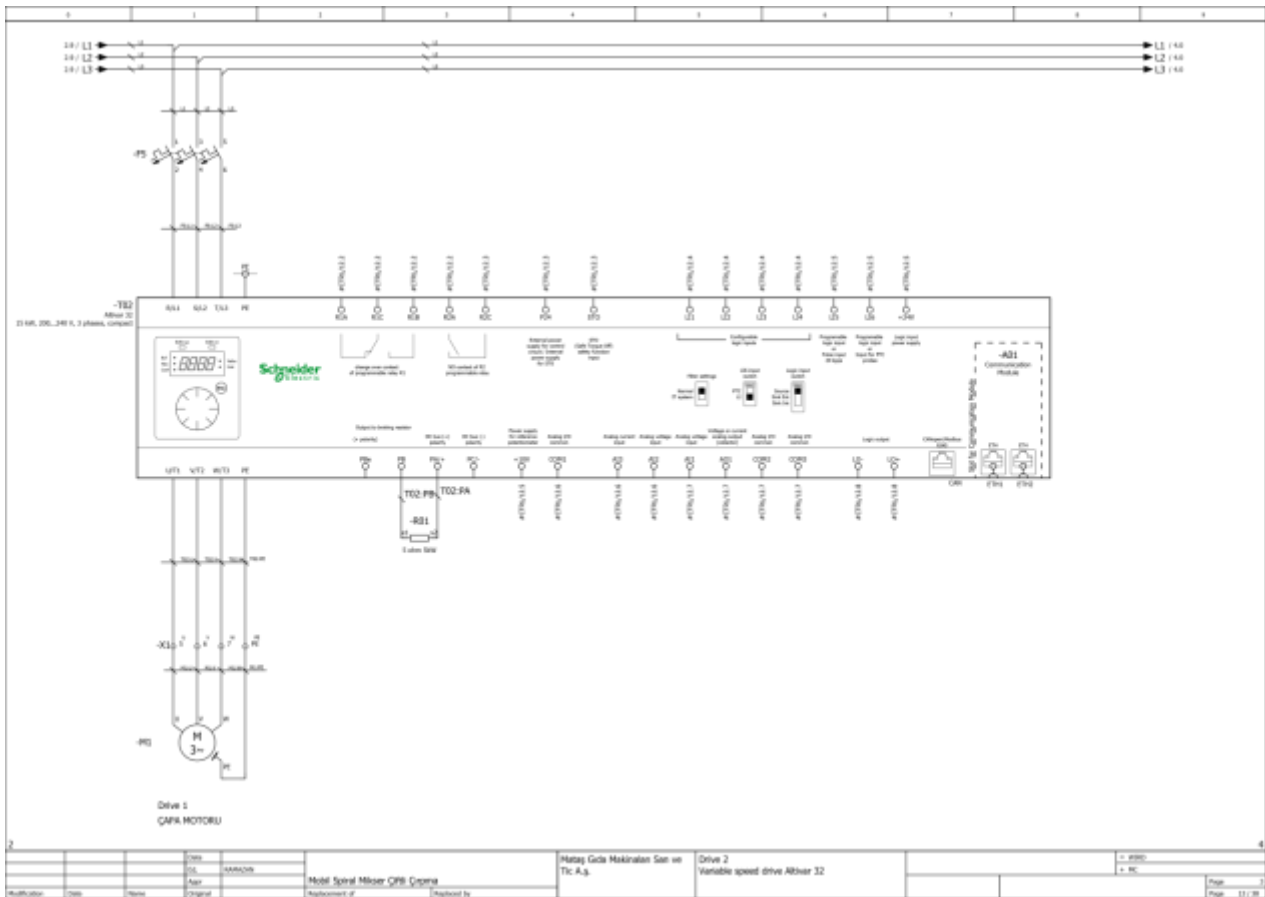
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Modification	Date	Name	Original	Replacement of	Replaced by				Page 7 / 36

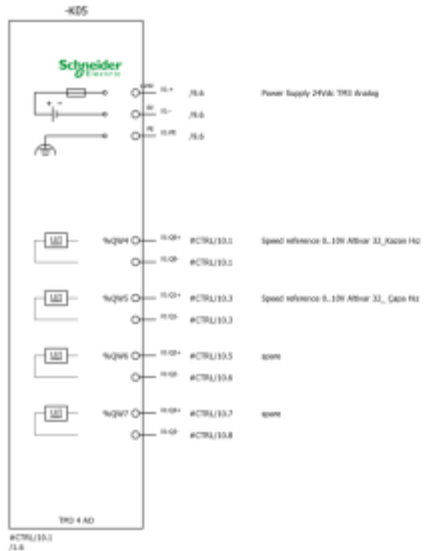
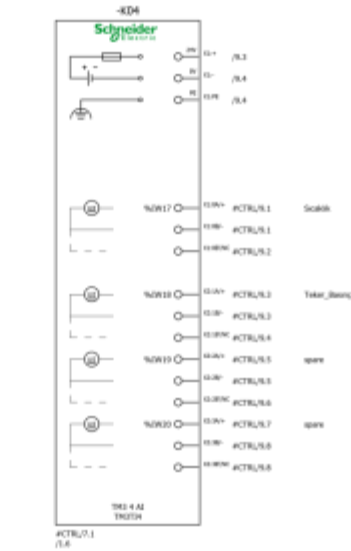
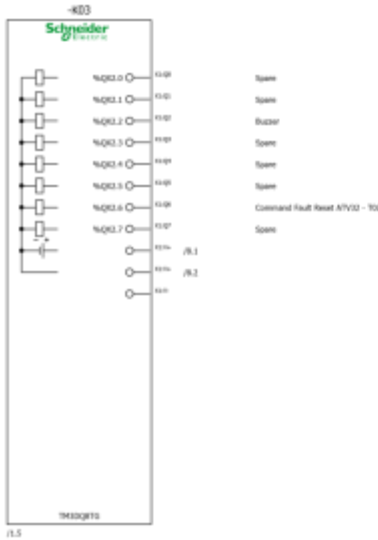
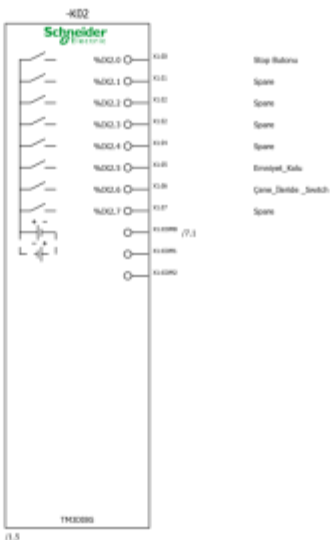


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		Rev:		Model Spiral Mikser Çiğir Çiğir					
		Rev:		Proje No: 10.000.000.000.000.000					
Modülasyon:		Date:		Revizyon:				Page:	
								Page:	



+CDPM+LAYOUT/3		Date:		Matay Gıda Makinaları San ve Tic A.Ş.		Power supply Infeed		+WSD+NC+PMD/3	
		Rev:		Model Spiral Mikser Çiğir Çiğir					
		Rev:		Proje No: 10.000.000.000.000.000					
Modülasyon:		Date:		Revizyon:				Page:	
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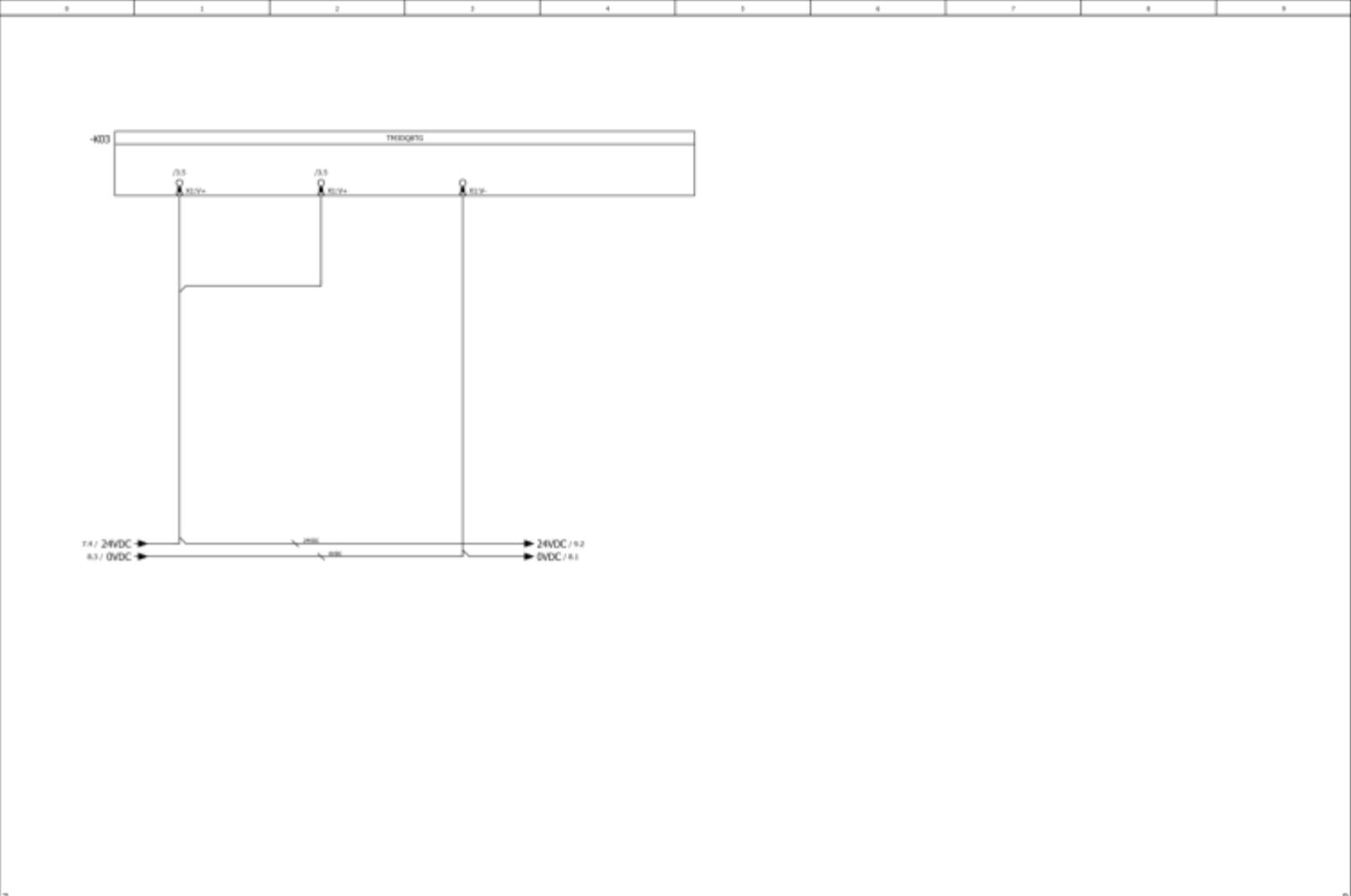


Date	2024/01/01
Ed.	001/001
Spes.	001/001
Original	001/001

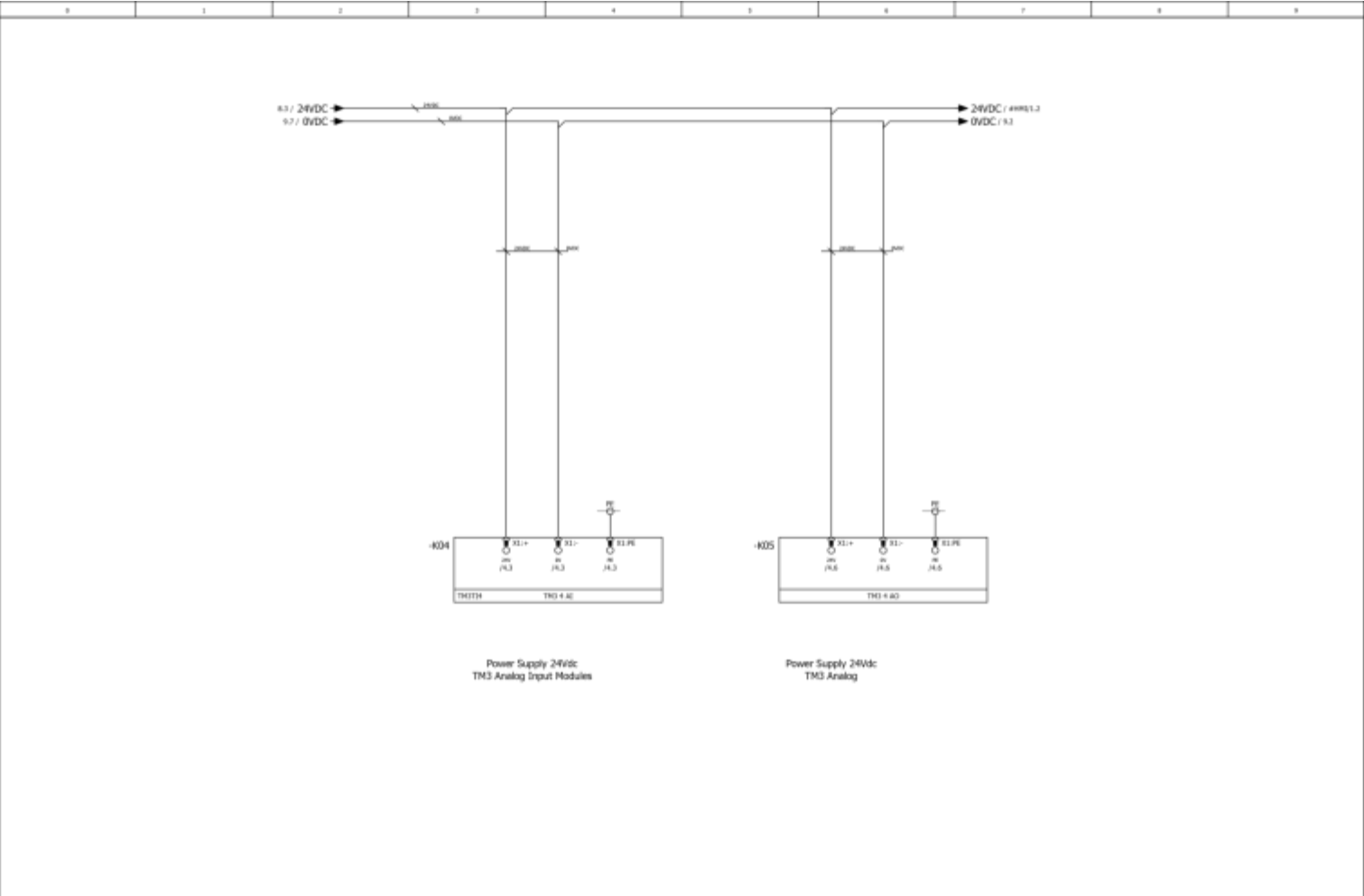
Model Spiral Mikser QM3 Cpmra	Matay Gıda Makinaları San ve Tic A.Ş.
Deployment of	Replaced by

Overview I/O module TM3	Overview AJ/VO module TM3
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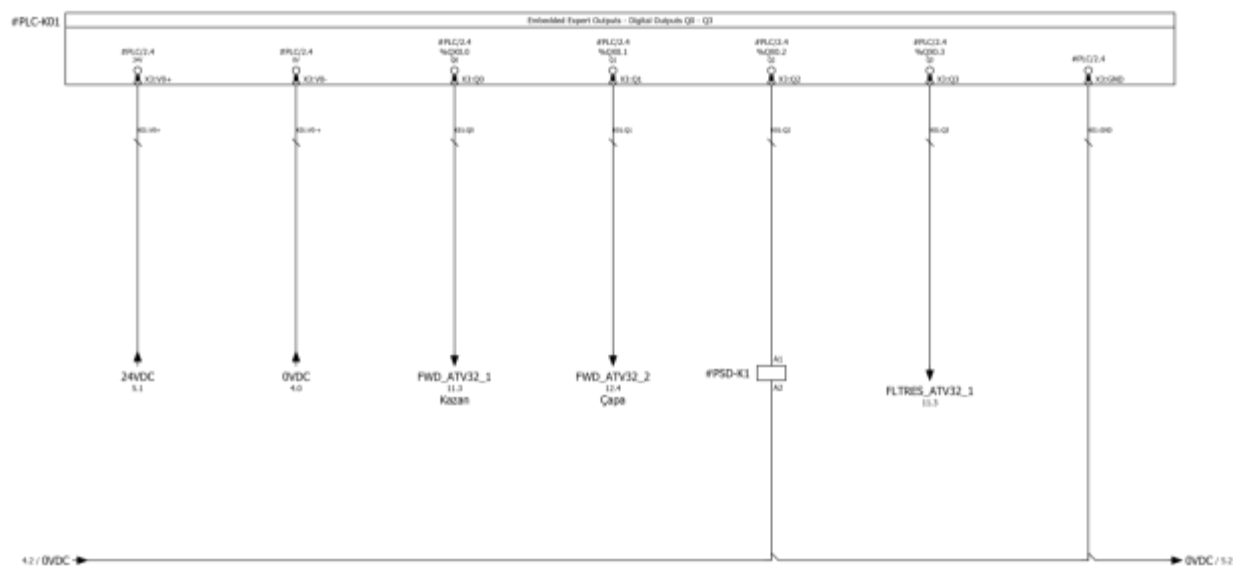


					Matay Gıda Makinaları San ve Tic A.Ş.		Power supply TM3-DQ		= W3D	
					Mobil Spiral Mikser QRS Çrpma				= MC	
Modification	Date	Name	Original	Replacement of	Replaced by				Page 22 / 38	



					Matay Gıda Makinaları San ve Tic A.Ş.		Power supply TM3-T3-AQ		= W3D	
					Mobil Spiral Mikser QRS Çrpma				= MC	
Modification	Date	Name	Original	Replacement of	Replaced by				Page 23 / 38	





1 2 SP5D/5.1
3  4 SP5D/5.2
5 6 SP5D/5.3

Power Supply 24Vdc
00-03

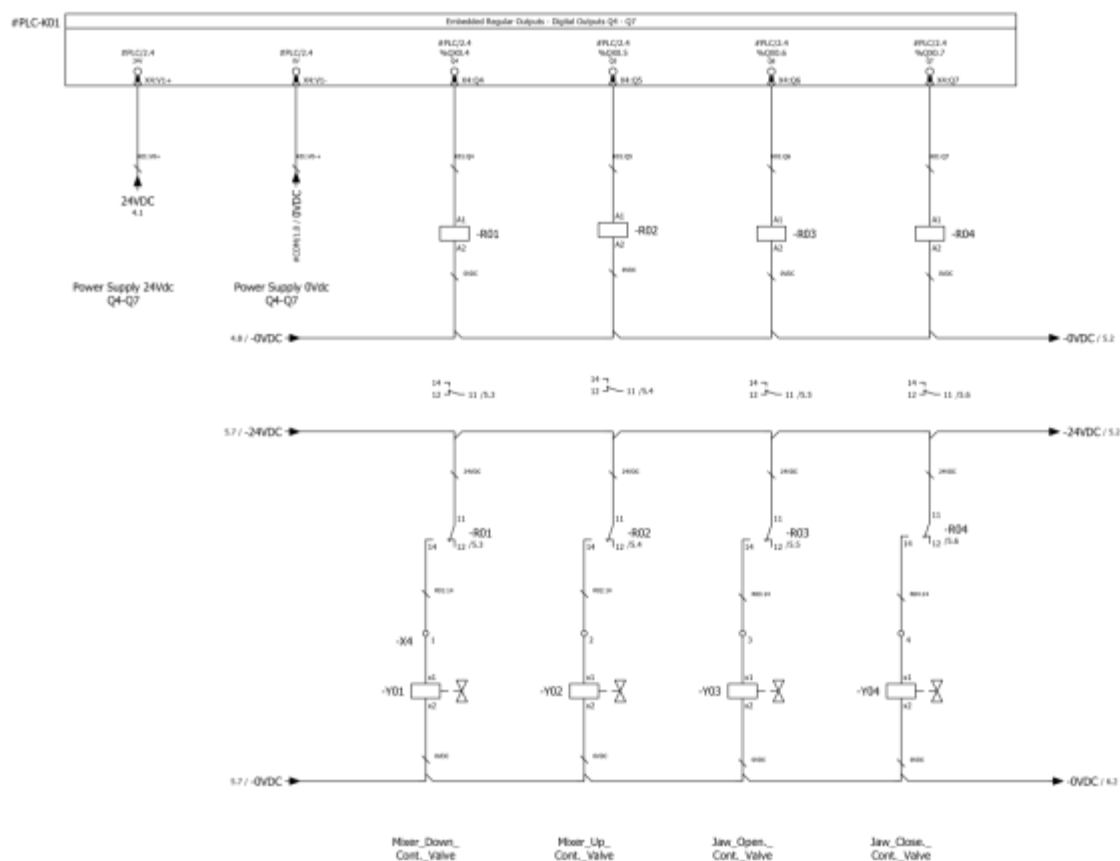
Power Supply Cvd: 00-03

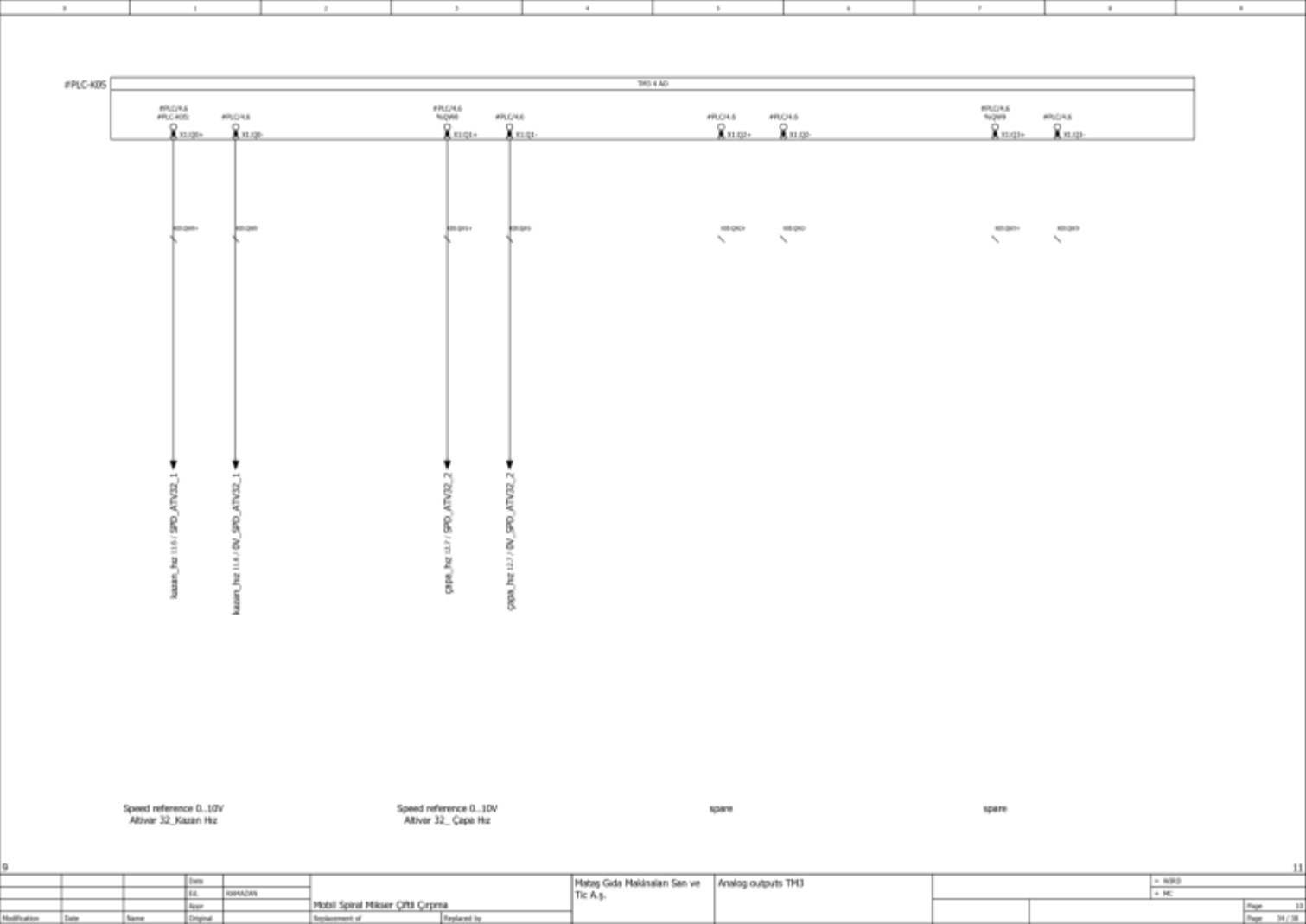
Command Forward
ATv32 - T01
Kazen_Don_Komutu

Command Forward
ATV32 - T02
Cape Don Komutu

Hydraulic Pump on

Command Fault Reset
ATV32 - T01

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8) USING MACHINE

- It provides excellent results in kneading all dough and similar products used in bread and bakery products.
- Before using the machine, the entire outer surface should be cleaned with a cloth dipped in warm soapy water. The boiler and mixer should be washed thoroughly with soap and water and rinsed with plenty of water.
- Open the boiler cover and put the material to be mixed into the boiler.
- Open the upper cover to put in the bread.
- Switch on the main switch.

***NOTE:** Please read the other touch led booklet for later.*

9) PRODUCT VIEW



PART LIST	
NO	Part Name
1	MOBILE TROLLEY
2	SAFETY COVER
4	MAIN BODY
5	FAN SYSTEM
6	ELECTRIC PANO

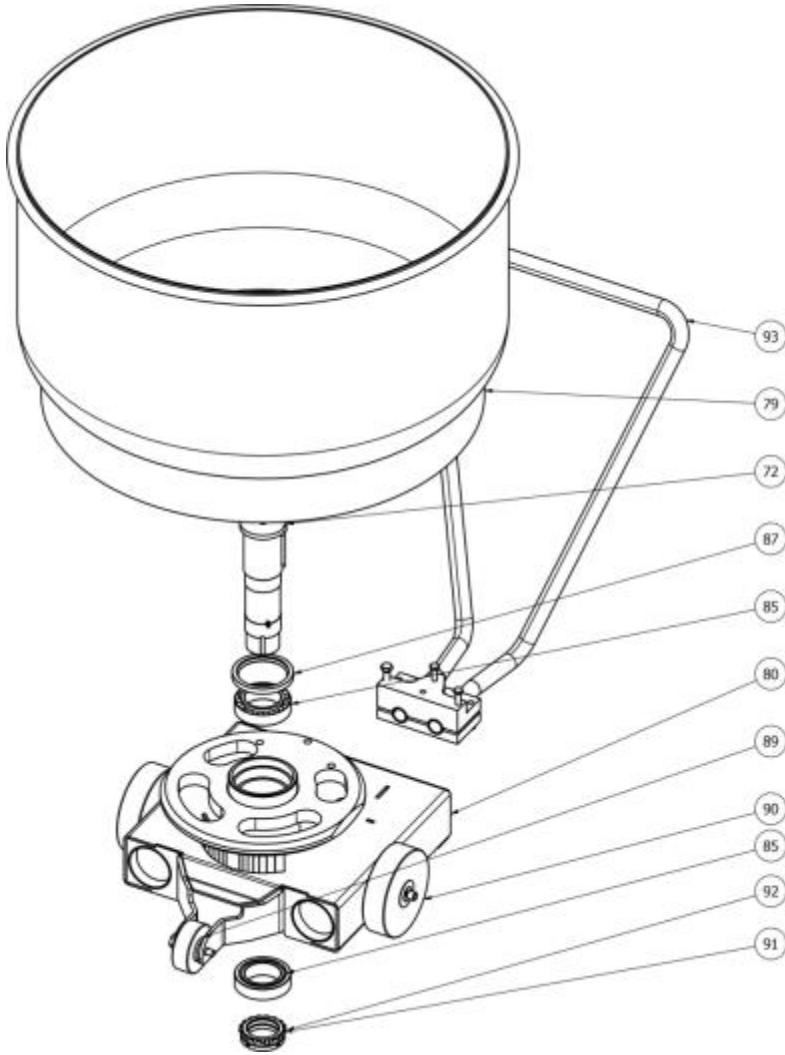
10) PRODUCT DESCRIPTION

Patisserie, bakery products, hotel etc. It is used to knead various dough products. Automatic spiral mixer is capable of kneading dough in a much shorter time. Automatic and manual operation options are available. Kneading times are adjustable. It works silently, thanks to belt pulley system. Thanks to its double speed motor, it provides two speed usage. It can be easily moved thanks to the wheels on the trolley. Spare bowl can be used with mobile bowl system. With the emergency stop button, the machine can be stopped in a sudden situation.

11) PRODUCT WORKING PRINCIPLE

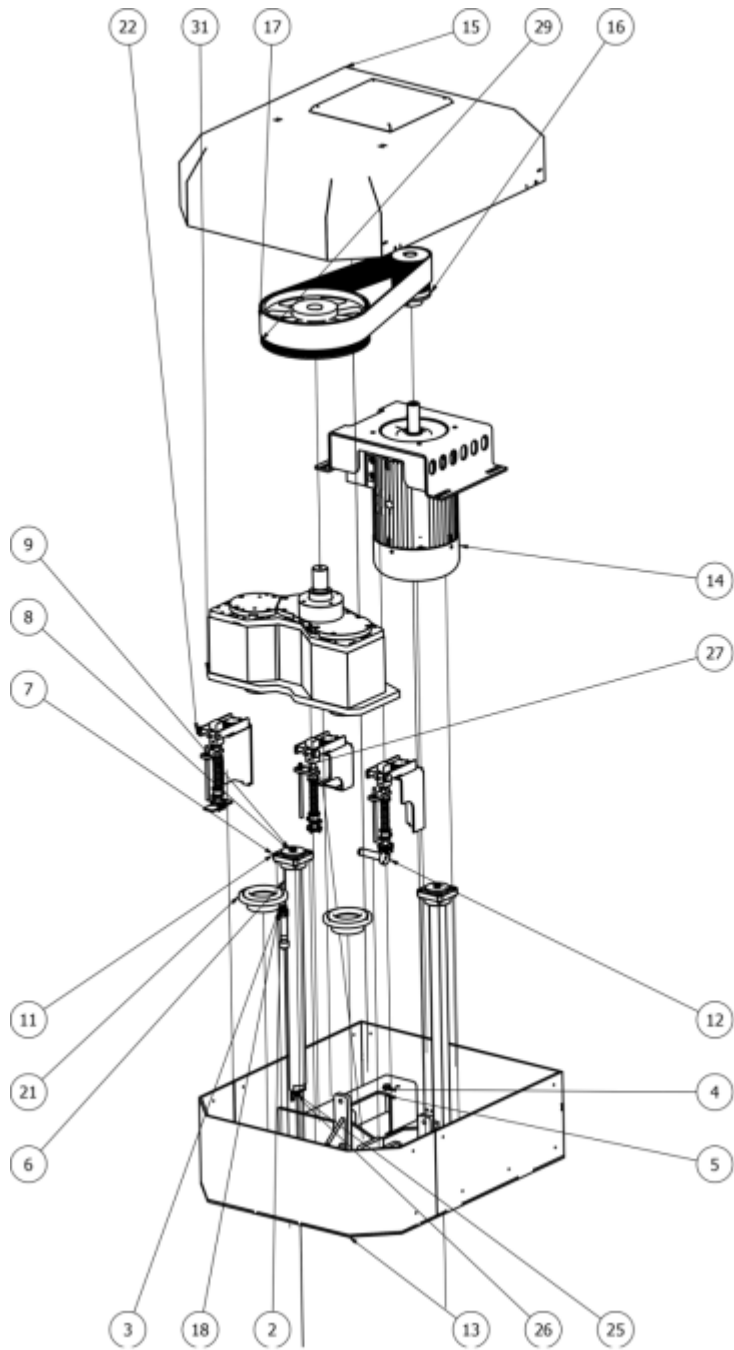
The anchor rotates by transferring power from the 11-15 KW motor to the head pulley connected to the anchor through the transmission pulley. The wheel in the body rotates the boiler with the movement it receives from the 1.5-2.5 KW boiler reducer with a belt pulley system. It is double-fast and time-adjusted. Thanks to its hydraulic system, the upper moving body works by moving up and down, and the boiler can be removed.

12) PRODUCT TECHNICAL DATA



PARTS LIST		
ITEM	QTY	PART NUMBER
72	1	950 LİK TAŞIMA BORUSU SABİT KISIM
79	1	Ø950 PROMIX KAZAN GÖVDESİ
80	1	950 LİK ALÇAK ARABA SAC
85	2	DIN 720 - 33014 - 70 x 110 x 31
87	1	DIN 3760 - A - 95 x 120 x 12 - NBR
89	1	EMES 100 TEKERLEK
90	2	950 LİK EMES YT 00 VBP 180
91	2	DIN 981 - KM 13
92	1	DIN 5406 - MB13
93	1	KOL TERTİBATI

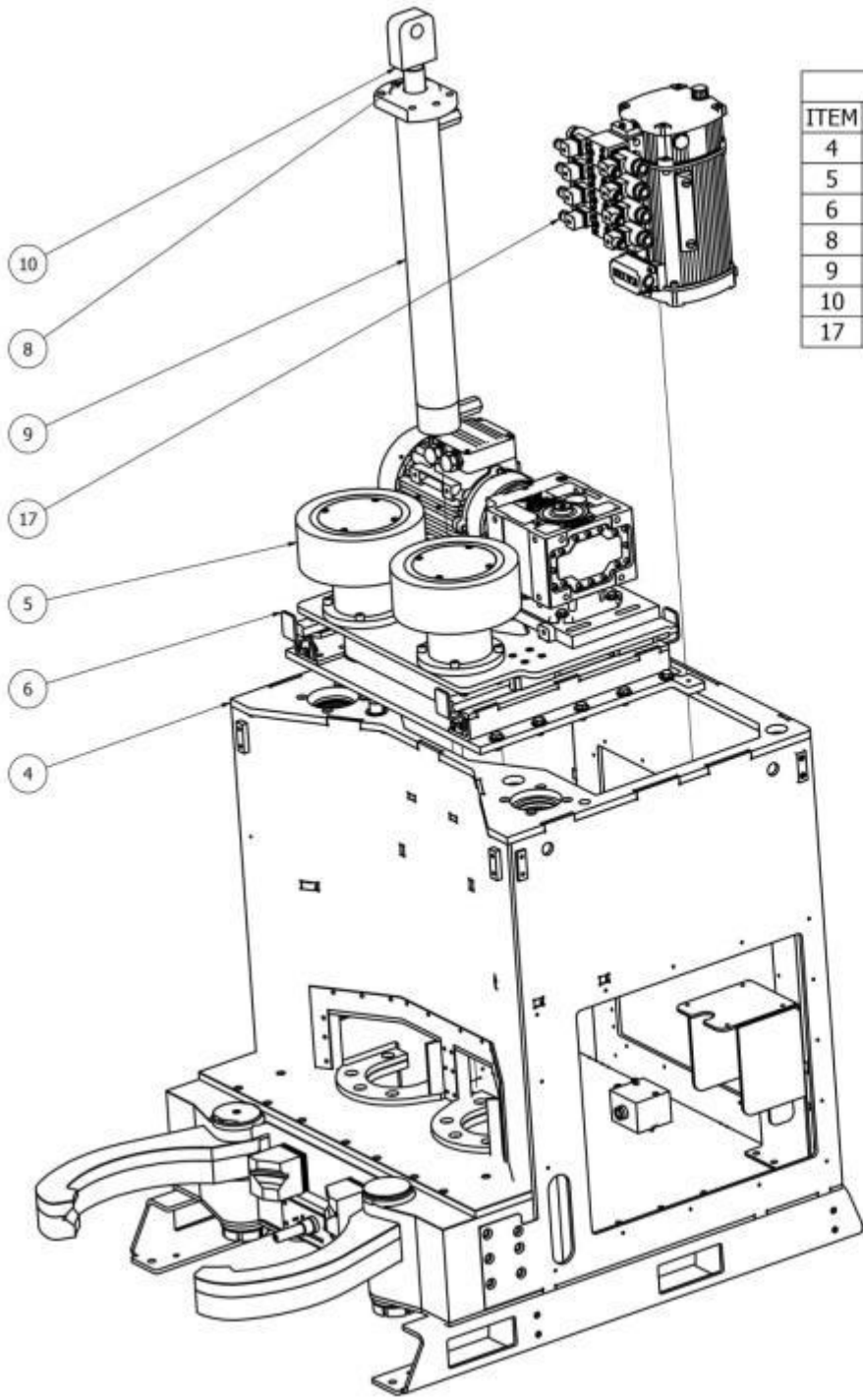
Reducer



PARTS LIST

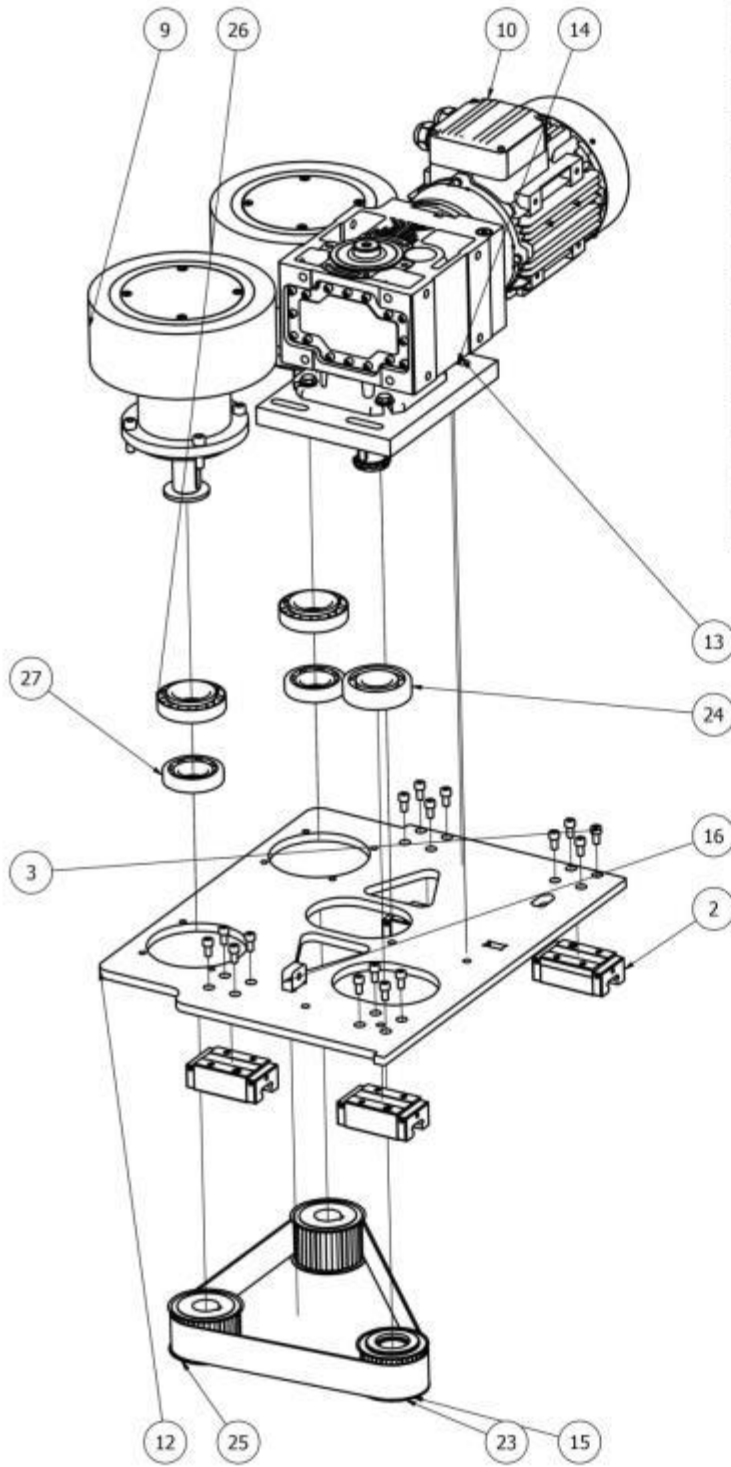
ITEM	QTY	PART NUMBER
2	1	ÖN SENSÖR KORUMA BORUSU
3	2	KM 4 DIŞ DEĞİŞTİRME
4	2	AS 1237 - 14 mm
5	2	DIN 961 - M14 x 30
6	2	MOBİL DİK MİKSER ÜST YATAKLAMA KOLON
7	2	MOBİL DİK MİKSER ÜST YATAKLAMA KOLON KEPİ
8	2	DIN 125 - A 13
9	2	DIN 960 - M12 x 1,25 x 45
10	6	DIN 915 - M8 x 20
11	8	ASME/ANSI B18.3.5M - M12x30(2)
12	1	ANA PİSTON PİMİ
13	1	ÜST KAFA KUTU
14	1	H160LC-4-8, 10-6 KW, 1450-720 DEV 60 HZ
15	1	YENİ ÇİFT KAFALI MOBİL MİKSER KAPAK
16	1	ÜST MOTOR PULİSİ PK Ø136.994 MM
17	1	9 PK 2140 KAYIŞ
18	1	İSİ SENSÖR KORUMA BORUSU
20	1	SIYIRICI
21	2	ÇAPA MİLİ SIZDIRMAZLIK PLASTİK
22	1	SİVİÇ GRUP MONTAJ
23	2	DIN 3771 - 140 x 3,55 - N - NBR 70
24	1	DIN 3771 - 109 x 5,3 - N - NBR 70
25	1	ANSI B18.3.1M - M10x1,5 x 50
26	1	ÇİFT ÇAPALI MOBİL ÜS SİVİÇ SACI
27	1	KAPAK SİVİÇ ORTA
29	1	MOBİL MİKSER SPR-250 ÜST KAFA KASNAĞI PK 395-35 3535 TS-148
30	1	DIN 3771 - 100 x 3,55 - N - NBR 70
31	1	ÇİF ÇAPA REDİKTÖR KAYNAK FİNAL_19.09.2020

Mobile Boiler Details



PARTS LIST		
ITEM	QTY	PART NUMBER
4	1	DIŞ KABUK
5	1	2 ÇAPALI KAZAN TEKERLEK SİS. ÜST GEZER
6	1	KAZAN TEKERLEK SİS. ALT SABİT
8	1	80 PİSTON KOLU
9	1	Ø80 HİD SİLİNDİR
10	1	80 PİSTON KOLU MAŞA ÇATALI
17	1	4 VALF Lİ HAWE HİDROLİK POMPA

Upper Body Details



PARTS LIST		
ITEM	QTY	PART NUMBER
2	4	TRH30VL ARABA
3	16	AS 1420 - 1973 - M8 x 16
9	2	MOBİL MİKSER KAZAN TEKERLEK SÜRÜŞ GURUBU
10	1	REDİKTÖR MONTAJI
12	1	KR REDİKTÖR KAZAN TEKERLEK SÜRÜŞ PLAKASI
13	2	AS 1237 - 12 mm
14	2	AS 1110 - M12 x 40
15	1	8Mx50 1264 TRİGER ZAMAN KAYIŞI
16	1	REDİKTÖR GERGİ SOMUNU
23	1	8M 34 DİŞ 50MM TRİGER
24	1	DIN 625 SKF - SKF 6308-Z
25	2	8M 36 DİŞ 50MM TRİGER
26	2	DIN 720 - 32210 - 50 x 90 x 24,75
27	2	DIN 720 - 30208 - 40 x 80 x 19,75

Upper Body Details

13) POSSIBLE ERRORS AND SOLUTIONS

Fault detection codes which require a power reset after the detected fault is cleared

The cause of the detected fault must be removed before resetting by turning off and then back on.

ASF, *brF*, *SoF*, *SPF* and *EnF* detected faults can also be cleared remotely by means of a logic input or control bit ([**Fault reset**] (*rSF*) parameter, page 251).

Detected Fault	Name	Probable cause	Remedy
<i>EnF</i>	[Load slipping]	The difference between the output frequency and the speed feedback is not correct.	- Check the motor, gain and stability parameters. - Add a braking resistor. - Check the size of the motor/drive/load. - Check the encoder's mechanical coupling and its wiring. - Check the setting of parameters
<i>ASF</i>	[Angle Error]	This occurs during the phase-shift angle measurement, if the motor phase is disconnected or if the motor inductance is too high.	Check the motor phases and the maximum current allowed by the drive.
<i>brF</i>	[Brake feedback]	- The brake feedback contact does not match the brake logic control. - The brake does not stop the motor quickly enough (detected by measuring the speed on the "Pulse input" input).	- Check the feedback circuit and the brake logic control circuit. - Check the mechanical state of the brake. - Check the brake linings.
<i>CrFI</i>	[Precharge]	Charging relay control detected fault or charging resistor damaged.	- Turn the drive off and then turn on again. - Check the internal connections. - Contact Schneider Electric Product Support.
<i>EEF1</i>	[Control Eeprom]	Internal memory detected fault, control block.	- Check the environment (electromagnetic compatibility). - Turn off, reset, return to factory settings. - Contact Schneider Electric Product Support.
<i>EEF2</i>	[Power Eeprom]	Internal memory detected fault, power card.	
<i>FCFI</i>	[Out. contact. stuck]	The output contactor remains closed although the opening conditions have been met.	- Check the contactor and its wiring. - Check the feedback circuit.
<i>HdF</i>	[IGBT desaturation]	Short-circuit or grounding at the drive output.	Check the cables connecting the drive to the motor, and the motor insulation.
<i>ILF</i>	[internal com. link]	Communication interruption between option card and drive.	- Check the environment (electromagnetic compatibility). - Check the connections. - Replace the option card. - Contact Schneider Electric Product Support.
<i>INF1</i>	[Rating error]	The power card is different from the card stored.	Check the reference of the power card.
<i>INF2</i>	[Incompatible PB]	The power card is incompatible with the control block.	Check the reference of the power card and its compatibility.
<i>INF3</i>	[Internal serial link]	Communication interruption between the internal cards.	- Check the internal connections. - Contact Schneider Electric Product Support.
<i>INF4</i>	[Internal-mftg zone]	Internal data inconsistent.	Recalibrate the drive (performed by Schneider Electric Product Support).
<i>INF6</i>	[Internal - fault option]	The option installed in the drive is not recognized.	- Check the reference and compatibility of the option. - Check that the option is well inserted into the ATV320.
<i>INF9</i>	[Internal- I measure]	The current measurements are incorrect.	- Replace the current sensors or the power card. - Contact Schneider Electric Product Support.
<i>INF8</i>	[Internal-mains circuit]	The input stage is not operating correctly.	Contact Schneider Electric Product Support.
<i>INFb</i>	[Internal- th. sensor]	The drive temperature sensor is not operating correctly.	- Replace the drive temperature sensor. - Contact Schneider Electric Product Support.
<i>INF E</i>	[internal- CPU]	Internal microprocessor detected fault.	- Turn off and reset. - Contact Schneider Electric Product Support.
<i>SFFF</i>	[Safety fault]	- Debounce time exceeded. - SS1 threshold exceeded. - Wrong configuration. - SLS type overspeed detected.	- Check the safety functions configuration. - Check the ATV320 Integrated safety Functions manual - Contact Schneider Electric Product Support.

Detected Fault	Name	Probable cause	Remedy
S o F	[Overspeed]	• Instability or driving load too high.	• Check the motor, gain and stability parameters. • Add a braking resistor. • Check the size of the motor/drive/load. • Check the parameters settings for the [FREQUENCY METER] (F 9F -) function page 266, if it is configured.
S P F	[Speed fdback loss]	• Signal on "Pulse input" missing, if the input is used for speed measurement. • Encoder feedback signal missing	• Check the wiring of the input cable and the detector used. • Check the configuration parameters of the encoder. • Check the wiring between the encoder and the drive. • Check the encoder.

Fault detection codes that can be cleared with the automatic restart function after the cause has disappeared

These detected faults can also be cleared by turning on and off or by means of a logic input or control bit ([Fault reset] (*r 5 F*) parameter page 251).

Detected Fault	Name	Probable cause	Remedy
<i>b L F</i>	[Brake control]	- Brake release current not reached. - Brake engage frequency threshold [Brake engage freq] (<i>b E n</i>) only regulated when brake logic control is assigned.	- Check the drive/motor connection. - Check the motor windings. - Check the [Brake release I FW] (<i>r b r</i>) and [Brake release I Rev] (<i>r r d</i>) settings page 194. - Apply the recommended settings for [Brake engage freq] (<i>b E n</i>).
<i>C n F</i>	[Com. network]	Communication interruption on communication card.	- Check the environment (electromagnetic compatibility). - Check the wiring. - Check the time-out. - Replace the option card. - Contact Schneider Electric Product Support.
<i>C o F</i>	[CANopen com.]	Communication interruption on the CANopen® bus.	- Check the communication bus. - Check the time-out. - Refer to the CANopen® User's manual.
<i>E P F 1</i>	[External flt-LI/Bit]	Event triggered by an external device, depending on user.	Check the device which caused the triggering and reset.
<i>E P F 2</i>	[External fault com.]	Event triggered by a communication network.	Check for the cause of the triggering and reset.
<i>F b E S</i>	[FB stop flt.]	Function blocks have been stopped while motor was running.	Check [Stop FB Stop motor] (<i>F b S n</i>) configuration.
<i>F C F 2</i>	[Out. contact. open.]	The output contactor remains open although the closing conditions have been met.	- Check the contactor and its wiring. - Check the feedback circuit.
<i>L C F</i>	[Input contactor]	The drive is not turned on even though [Mains V. time out] (<i>L C t</i>) has elapsed.	- Check the contactor and its wiring. - Check the time-out. - Check the supply mains/contactor/drive connection.
<i>L F F 3</i>	[AI3 4-20mA loss]	Loss of the 4-20 mA reference on analog input AI3.	Check the connection on the analog inputs.
<i>o b F</i>	[Overbraking]	- Braking too sudden or driving load. - Supply voltage too high.	- Increase the deceleration time. - Install a braking resistor if necessary. - Activate the [Dec ramp adapt.] (<i>b r A</i>) function page 172, if it is compatible with the application. - Check the supply voltage.
<i>o C F</i>	[Overcurrent]	- Parameters in the [SETTINGS] (<i>S E t -</i>) and [MOTOR CONTROL] (<i>d r C -</i>) menus are not correct. - Inertia or load too high. - Mechanical locking.	- Check the parameters. - Check the size of the motor/drive/load. - Check the state of the mechanism. - Decrease [Current limitation] (<i>C L i</i>). - Increase the switching frequency.
<i>o H F</i>	[Drive overheat]	Drive temperature too high.	Check the motor load, the drive ventilation and the ambient temperature. Wait for the drive to cool down before restarting.
<i>o L C</i>	[Proc. overload flt]	Process overload.	- Check and remove the cause of the overload. - Check the parameters of the [PROCESS OVERLOAD] (<i>o L d -</i>) function, page 272.
<i>o L F</i>	[Motor overload]	Triggered by excessive motor current.	Check the setting of the motor thermal protection, check the motor load. Wait for the motor to cool down before restarting.
<i>o P F 1</i>	[1 output phase loss]	Loss of one phase at drive output.	Check the connections from the drive to the motor.

Detected Fault	Name	Probable cause	Remedy
o P F 2	[3 motor phase loss]	- Motor not connected or motor power too low. - Output contactor open. - Instantaneous instability in the motor current.	- Check the connections from the drive to the motor. - If an output contactor is being used, set [Output Phase Loss] (o P L) to [Output cut] (o R C), page 256. - Test on a low power motor or without a motor: In factory settings mode, motor phase loss detection is active [Output Phase Loss] (o P L) = [Yes] (Y E 5). To check the drive in a test or maintenance environment, without having to use a motor with the same rating as the drive (in particular for high power drives), deactivate motor phase loss detection [Output Phase Loss] (o P L) = [No] (n o), see instructions given page 256. - Check and optimize the following parameters: [IR compensation] (u F r) page 90, [Rated motor volt.] (u n 5) and [Rated mot. current] (n E r) page 86 and perform [Auto tuning] (t u n) page 87.
o S F	[Mains overvoltage]	- Supply voltage too high. - Disturbed mains supply.	Check the supply voltage.
o t F L	[LI6=PTC overheat]	Overheating of PTC probes detected on input LI6.	- Check the motor load and motor size. - Check the motor ventilation. - Wait for the motor to cool before restarting. - Check the type and state of the PTC probes.
P t F L	[LI6=PTC probe]	PTC probe on input LI6 open or short-circuited.	Check the PTC probe and the wiring between it and the motor/drive.
S C F 1	[Motor short circuit]	Short-circuit or grounding at the drive output.	- Check the cables connecting the drive to the motor, and the motor insulation. - Reduce the switching frequency. - Connect chokes in series with the motor. - Check the adjustment of speed loop and brake. - Increase the [Time to restart] (t E r), page 101. - Increase the switching frequency.
S C F 3	[Ground short circuit]	Significant earth leakage current at the drive output if several motors are connected in parallel.	- Check the cables connecting the drive to the motor, and the motor insulation. - Reduce the switching frequency. - Connect chokes in series with the motor. - Check the adjustment of speed loop and brake. - Increase the [Time to restart] (t E r), page 101. - Reduce the switching frequency.
S C F 4	[IGBT short circuit]	Power component detected fault.	Contact Schneider Electric Product Support.
S C F 5	[Motor short circuit]	Short-circuit at drive output.	- Check the cables connecting the drive to the motor, and the motor's insulation. - Contact Schneider Electric Product Support.
S L F 1	[Modbus com.]	Communication interruption on the Modbus bus.	- Check the communication bus. - Check the time-out. - Refer to the Modbus User's manual.
S L F 2	[PC com.]	Communication interruption with PC Software.	- Check the PC Software connecting cable. - Check the time-out.
S L F 3	[HMI com.]	Communication interruption with the graphic display terminal or remote display terminal.	- Check the terminal connection - Check the time-out.
S S F	[Torque/current lim]	Switch to torque or current limitation.	- Check if there are any mechanical problems. - Check the parameters of [TORQUE LIMITATION] (t o L -) page 216 and the parameters of the [TORQUE OR I LIM. DETECT.] (t i d -), page 264.
t J F	[IGBT overheat]	Drive overheated.	- Check the size of the load/motor/drive. - Reduce the switching frequency. - Wait for the motor to cool before restarting.

Detected Fault	Name	Probable cause	Remedy
ENF	[Auto-tuning]	• Special motor or motor whose power is not suitable for the drive. • Motor not connected to the drive. • Motor not stopped	• Check that the motor/drive are compatible. • Check that the motor is present during auto-tuning. • If an output contactor is being used, close it during auto-tuning. • Check that the motor is stopped during tune operation.
ULF	[Proc. underload Flt]	• Process underload.	• Check and remove the cause of the underload. • Check the parameters of the [PROCESS UNDERLOAD] (ULd-) function, page 270.

Fault detection codes that are cleared as soon as their cause disappears

Detected Fault	Name	Probable cause	Remedy
FFF	[Incorrect config.]	- Option card changed or removed. - Control block replaced by a control block configured on a drive with a different rating. - The current configuration is inconsistent.	- Check that there are no card errors. - In the event of the option card being changed/removed deliberately, see the remarks below. - Check that there are no card errors. - In the event of the control block being changed deliberately, see the remarks below. - Return to factory settings or retrieve the backup configuration, if it is valid (see page 81).
FF1 FF2	[Invalid config.]	Invalid configuration. The configuration loaded in the drive via the bus or communication network is inconsistent.	- Check the configuration loaded previously. - Load a compatible configuration.
SSF	[Ch. Sw. fault]	Switch to not valid channels.	Check the function parameters.
dLF	[Dynamic load fault]	Abnormal load variation.	- Check that the load is not blocked by an obstacle. - Removal of a run command causes a reset.
FbE	[FB fault]	Function blocks error.	See [FB Fault] (FbFt) for more details.
HCF	[Cards pairing]	The [CARDS PAIRING] (PP, -) function page 269 has been configured and a drive card has been changed.	- In the event of a card error, reinsert the original card. - Confirm the configuration by entering the [Pairing password] (PP,) if the card was changed deliberately.
PHF	[Input phase loss]	- Drive incorrectly supplied or a fuse blown. - One phase missing. 3-phase ATV320 used on a single-phase supply mains. - Unbalanced load. This protection only operates with the drive on load.	- Check the power connection and the fuses. - Use a 3-phase supply mains. - Disable the detected fault by [Input phase loss] (, PL) = [No] (na) page 86.
uSF	[Undervoltage]	- Supply mains too low. - Transient voltage dip.	Check the voltage and the parameters of [UNDERVOLTAGE MGT] (usb -), page 259.

Option card changed or removed

When an option card is removed or replaced by another, the drive locks in **[Incorrect config.] (FFF)** fault mode on power-up. If the card has been deliberately changed or removed, the detected fault can be cleared by pressing the ENT key twice, which causes the factory settings to be restored (see page 81) for the parameter groups affected by the card. These are as follows:

Card replaced by a card of the same type

- Communication cards: only the parameters that are specific to communication cards

Control block changed

When a control block is replaced by a control block configured on a drive with a different rating, the drive locks in **[Incorrect config.] (FFF)** fault mode on power-up. If the control block has been deliberately changed, the detected fault can be cleared by pressing the ENT key twice, which **causes all the factory settings to be restored**.

Fault detection codes displayed on the remote display terminal

Code	Name	Description
in iE (1)	[Initialization in progress]	The microcontroller is initializing. Search underway for communication configuration.
CoPi.E (1)	[Communication error]	Time out detected fault (50 ms). This message is displayed after 20 attempts at communication.
A - 17 (1)	[Alarm button]	A key has been held down for more than 10 seconds. The keypad is disconnected. The keypad wakes up when a key is pressed.
CLr (1)	[Confirmation of detected fault reset]	This is displayed when the STOP key is pressed once if the active command channel is the remote display terminal.
dEu.E (1)	[Drive disparity]	The drive brand does not match that of the remote display terminal.
r o Pi.E (1)	[ROM anomaly]	The remote display terminal detects a ROM anomaly on the basis of checksum calculation.
r R Pi.E (1)	[RAM anomaly]	The remote display terminal detects a RAM anomaly.
CPu.E (1)	[Other detected faults]	Other detected faults.

(1) Flashing

14) WARRANTY CONDITIONS

1. To take advantage of warranty of the product, date of sale, company name and company seal must be remarked on the warranty card. And you must have warranty card or invoice of the product
2. The product, installed by authorized service and used according to instructions introduced into user manual, has 1 one year warranty for any manufacturing and assembly problems.
3. Introducing, fixing problems and machine placing including by warranty, belongs to MATAŞ A.Ş.
4. Warranty includes the only written product which is installed, operated and maintained according to instruction manual and usage comply with warranty conditions. Warranty is valid for only introduced product and It can not be claimed any rights for any other products
5. The product will be out of warranty if the information, serial number, type etc. On the product or warranty card, is changed or removed.
6. Warranty valids only warranty period for any installation, assembly, component and parts problem. Parts included by warranty will be replaced or fixed by MATAŞ A.Ş. due to any problem
7. In the warranty period, only authorized MATAŞ A.Ş. services is responsible for repairing. Warranty will be invalid if product is serviced by unauthorized person.
8. Installation should be done by authorized service personnel and changing location of the machine must be informed to the authorized MATAŞ A.Ş. service.
9. If any problem occurs during usage, please call the MATAŞ A.Ş. the authorized service.
10. MATAŞ A.Ş. is not responsible for unauthorized of loading, unloading and transport damage that occurs during these processes and servicing will be priced for these damages repairing. Also damages by external factors will not included by the warranty and will be priced.
11. In case of conflict BURSA COURT will be authorized.