

PALLET STRETCH WRAPPING MACHINE

MODEL: TMD-P46PH-PLUS HMI VERSION

OPERATION MANUAL

2022-11

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1. GENERAL

1.1 NOTICE OF INSTALLATION

To make sure a safe and correct operation, please check conditions below before install the machine:

- 1) Power source capacity must be equal of the machine need.
- 2) Machine standard power is 110v/230v (+- 10%)
- 3) Machine standard power Hertz is 50/60 Hz. (+- 2%)
- 4) Machine is workable under the temperature between 0°C - 45°C
- 5) Make sure the wire is tidy on the ground.
- 6) There should not have vibration beside the machine during the installation, and make sure to ground is flat.
- 7) Read and follow the instruction of the installation.

1.2 NOTICE OF OPERATION

To have good protection for the operator, please make sure the following conditions:

- 1) Before operating, please read the machine operational manual carefully.
- 2) Make sure there is no object put on the power cable.
- 3) Make sure there is no object put on the upper carriage unit.
- 4) Avoid any damp object or water around the electric parts.
- 5) Avoid film winded into the turntable.
- 6) Do not stand on or across the machine during operation.
- 7) When the problem occurs, please check the section 5 Trouble shooting

2. SPECIFICATION

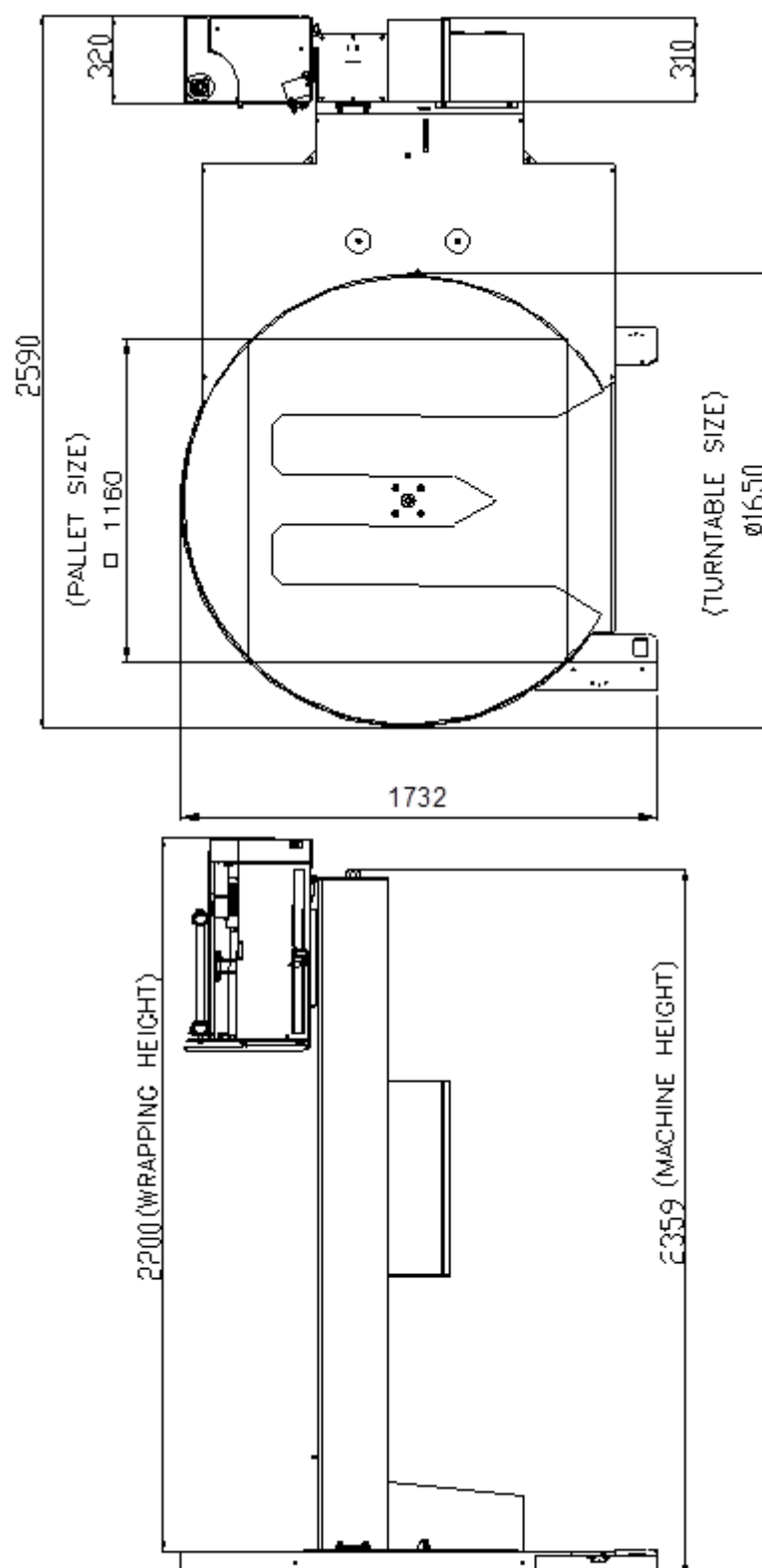
2.1 SPECIFICATION TABLE

Model	TMD-P46PH-PLUS
Turntable Speed	10 RPM
Turntable dia.	1650mm
Max wrapping height	2200mm
Pallet size	1200x1000mm
Pallet diagonal	1560mm, max.1620mm
Max loading weight	1200kgs
Film stretch (%)	300% standard
Max. film spec.	§ 250x500mm
Turntable height	75mm
Pallet jack width	< 620mm
Machine size	2590mm*1732mm*2359mm

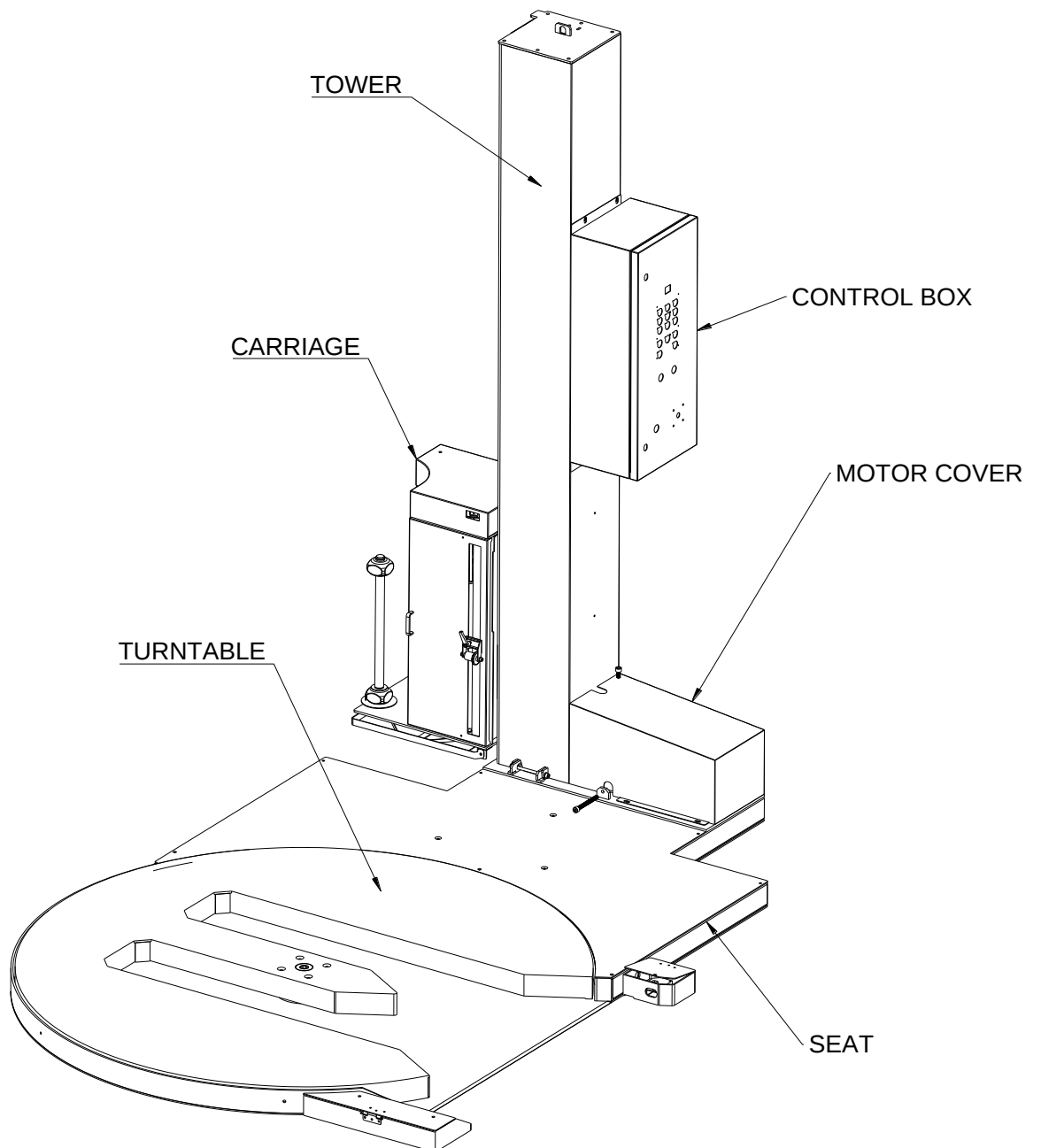
Standard option:

- ❖ 2.6 meters wrapping height
- ❖ Mechanical roping

2.2 MACHINE DIMENSION



2.3 MACHINE DESCRIPTION





Single Faced Skid

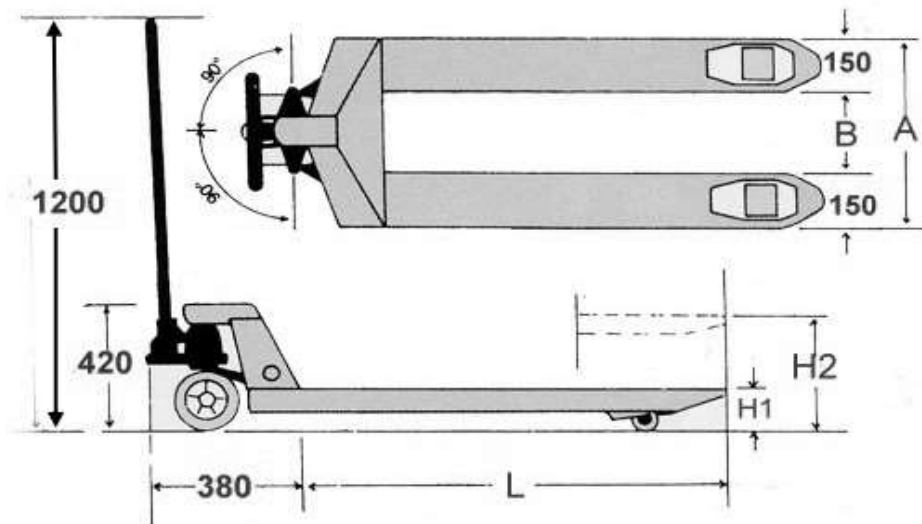


Standard Reversible Pallet



A : Pallet Jack Width < 620mm

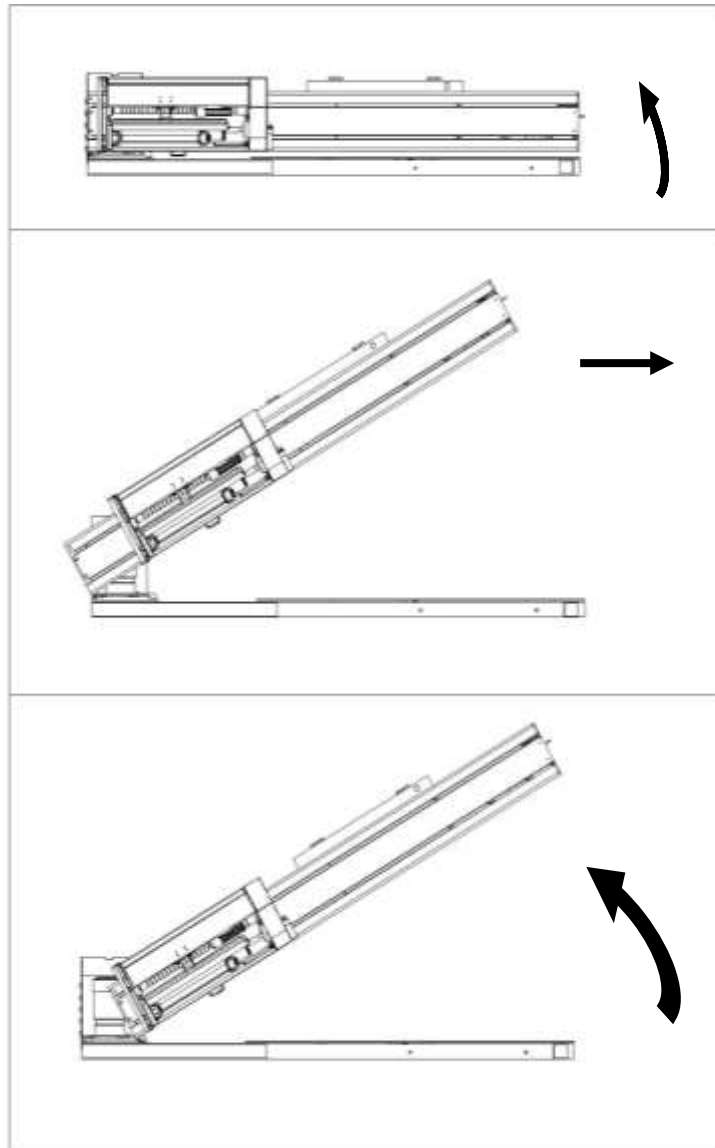
H2 : Pallet Jack Lift Height > H3 + 75mm



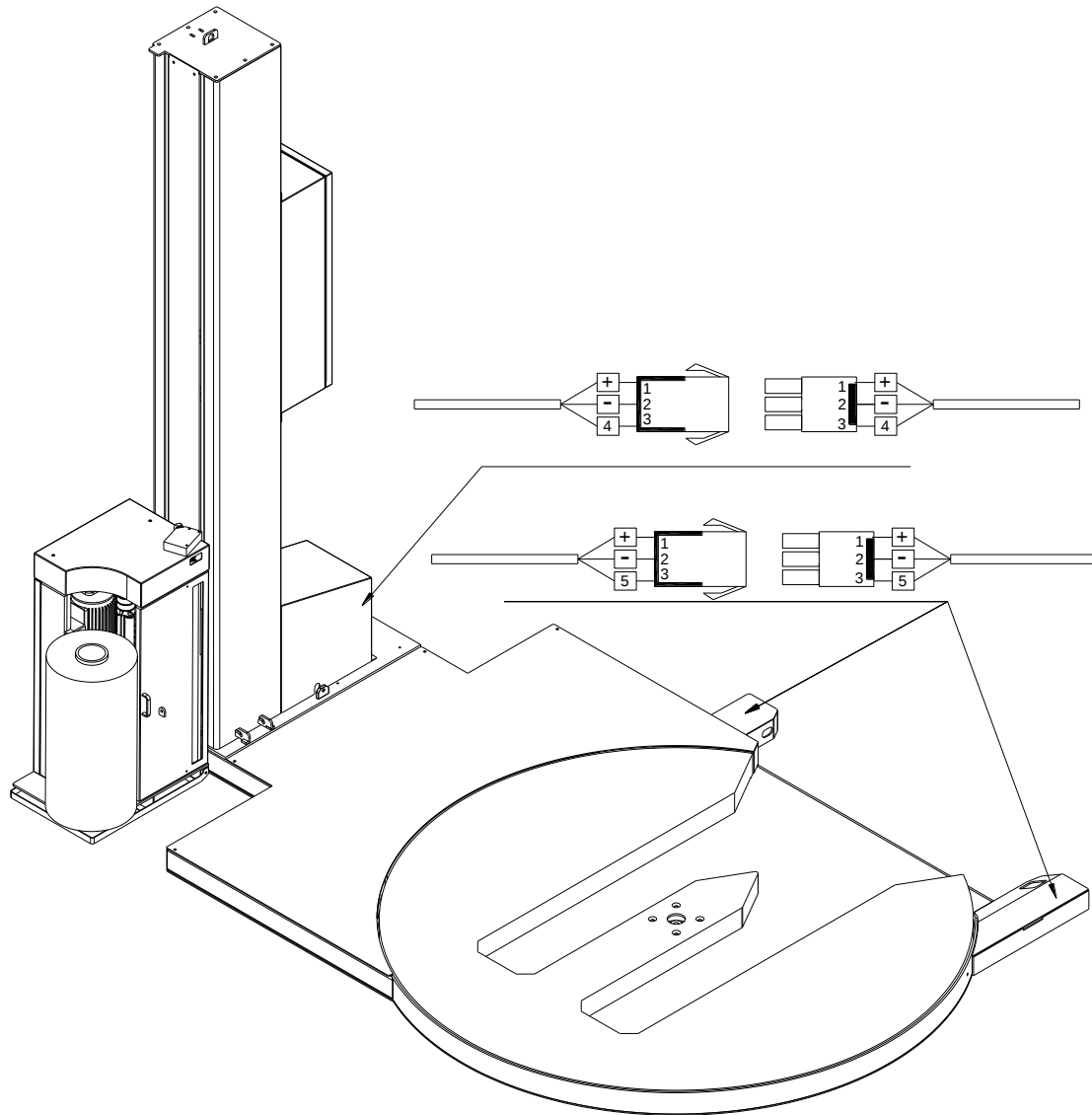
3. OPERATION DESCRIPTION

3.1 INSTALLATION

- 1) Apart the wooden package. Avoid damaging the machine.
- 2) a) Loosening 4 screws at the end of masters ◦ (Do not unscrew the sliding shaft, leave inside the track).
b) Lift up the master (Step 1).
c) Sliding the master towards turntable, until the sliding shaft move into locking position (Step 2).
d) Master is in position to be fully lifted and tighten all screws (Step 3).



- 3) Connect the motor plug to the main control, by referring to the diagram below. Machine is ready to be connecting to the power cable with the socket by an 110V/230V power.



3.2 REMINDER OF INSTALLATION

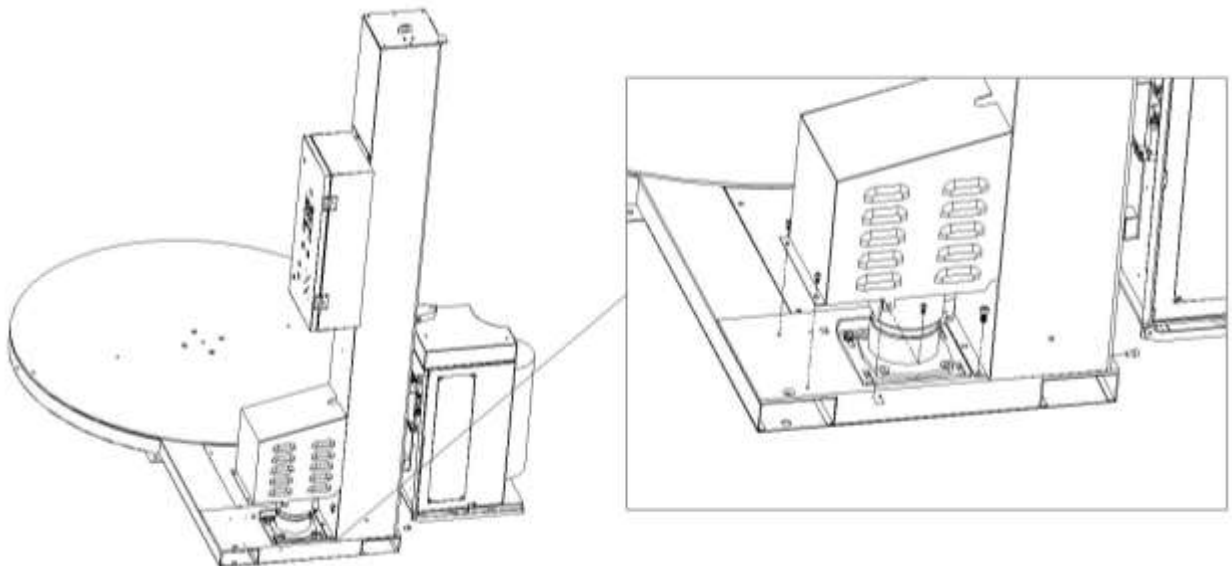
Please pay attention on:

Tower Installation

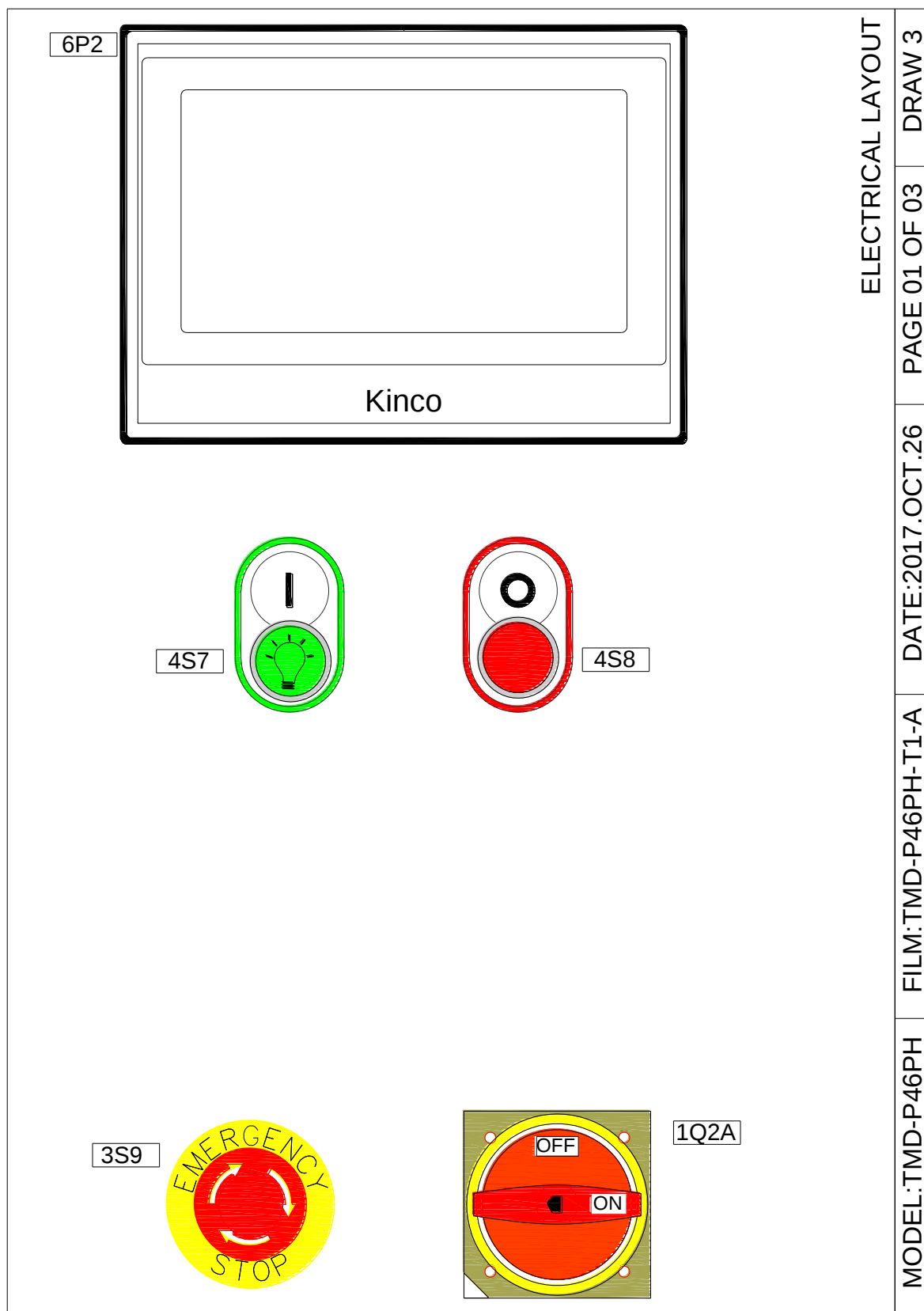
When installing the tower, the engineers must make sure all 4 screws are properly installed underneath the tower. 1 by carriage side, and 3 by the motor sides.

Motor Cover

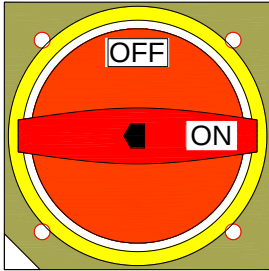
After all the connections are complete, please carefully install the motor cover to cover up all the wire connections and the motor on the base of the machines.



3.3 OPERATION OF CONTROL PANEL

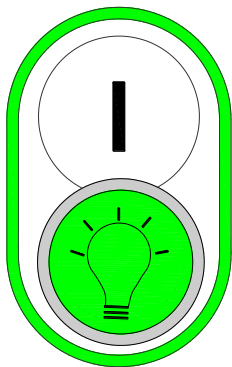


3.4 OPERATION DESCRIPTION



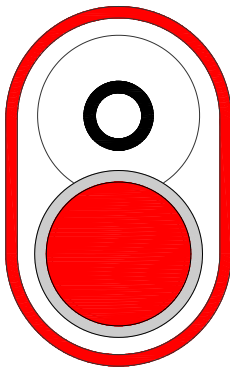
A. MAIN POWER

To switch ON and OFF the power



B. START

Press the button to get automatic or manual program running.



C. PAUSE

During the wrapping cycle, if the machine is required to be stopped, press **C** button to pause the machine and press **B** button to resume back to operation.

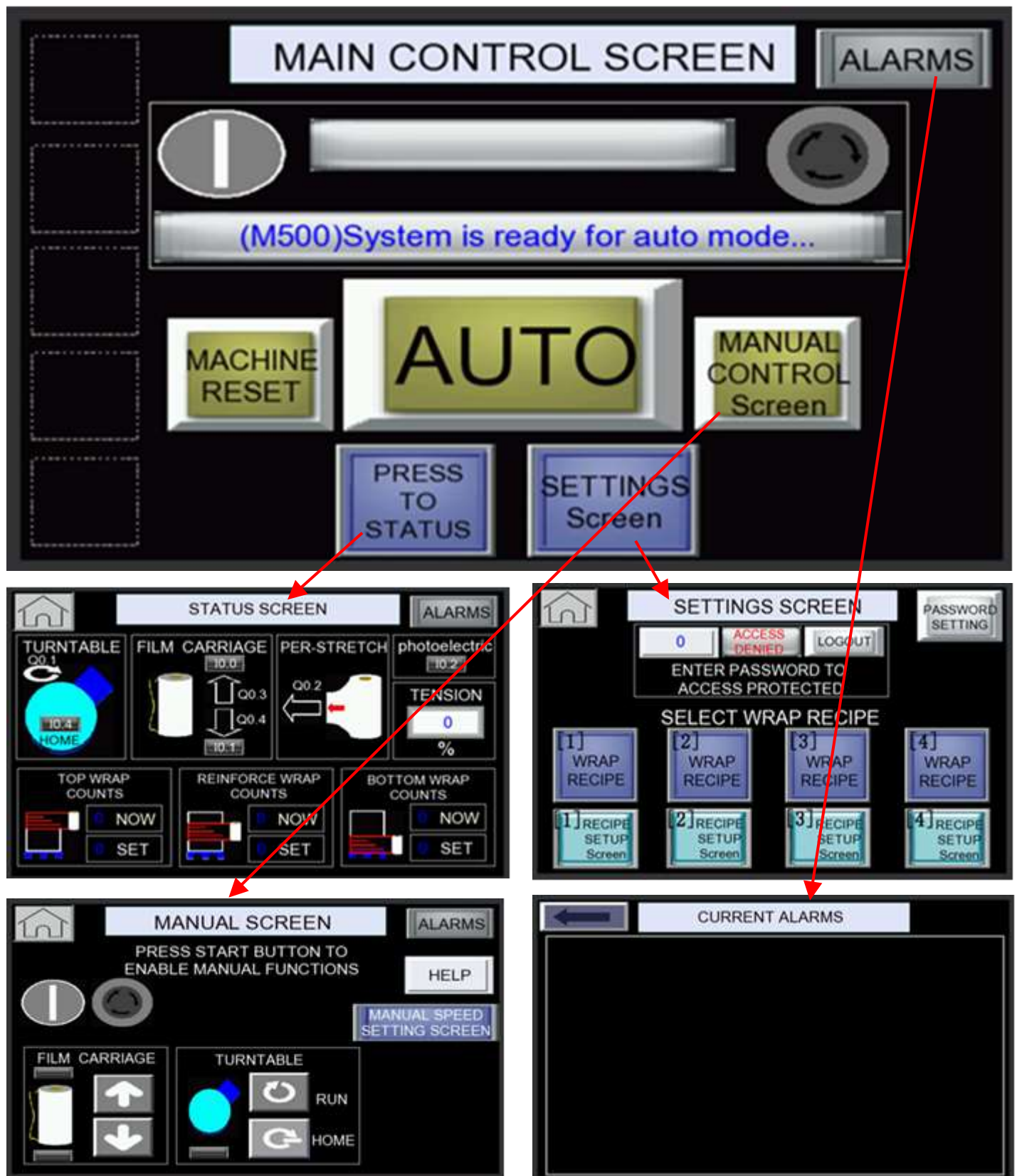


D. EMERGENCY STOP

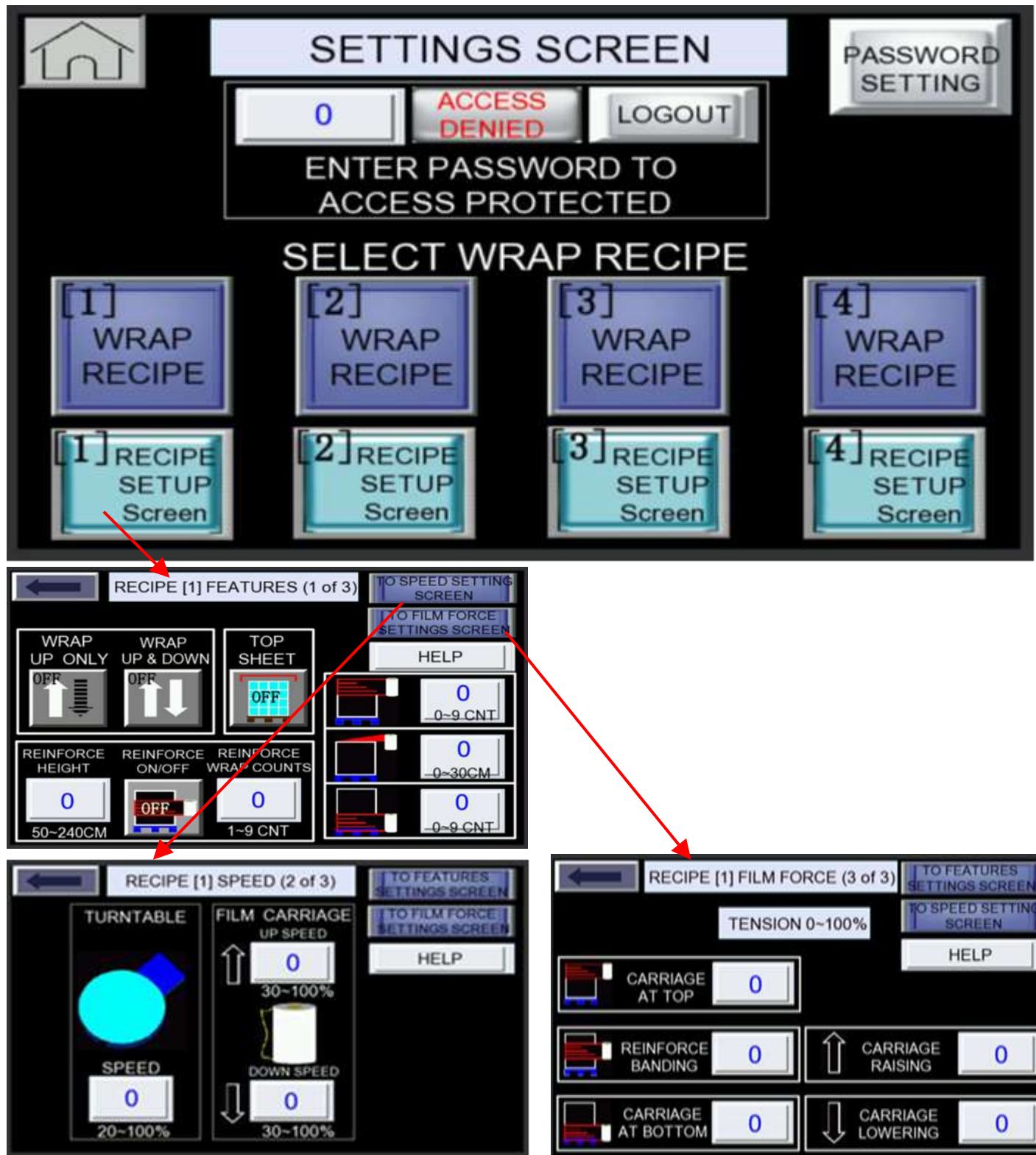
Press the button for emergency stop. For safety consideration, the turntable will not be stopped instantly as the EMG. STOP switch is pressed. As the turntable power is switched off, the break will be released too. Turntable will be stopped in $10^{\circ} \sim 70^{\circ}$. It depends on the weight load.

3.5 HUMAN MACHINE INTERFACE DESCRIPTION

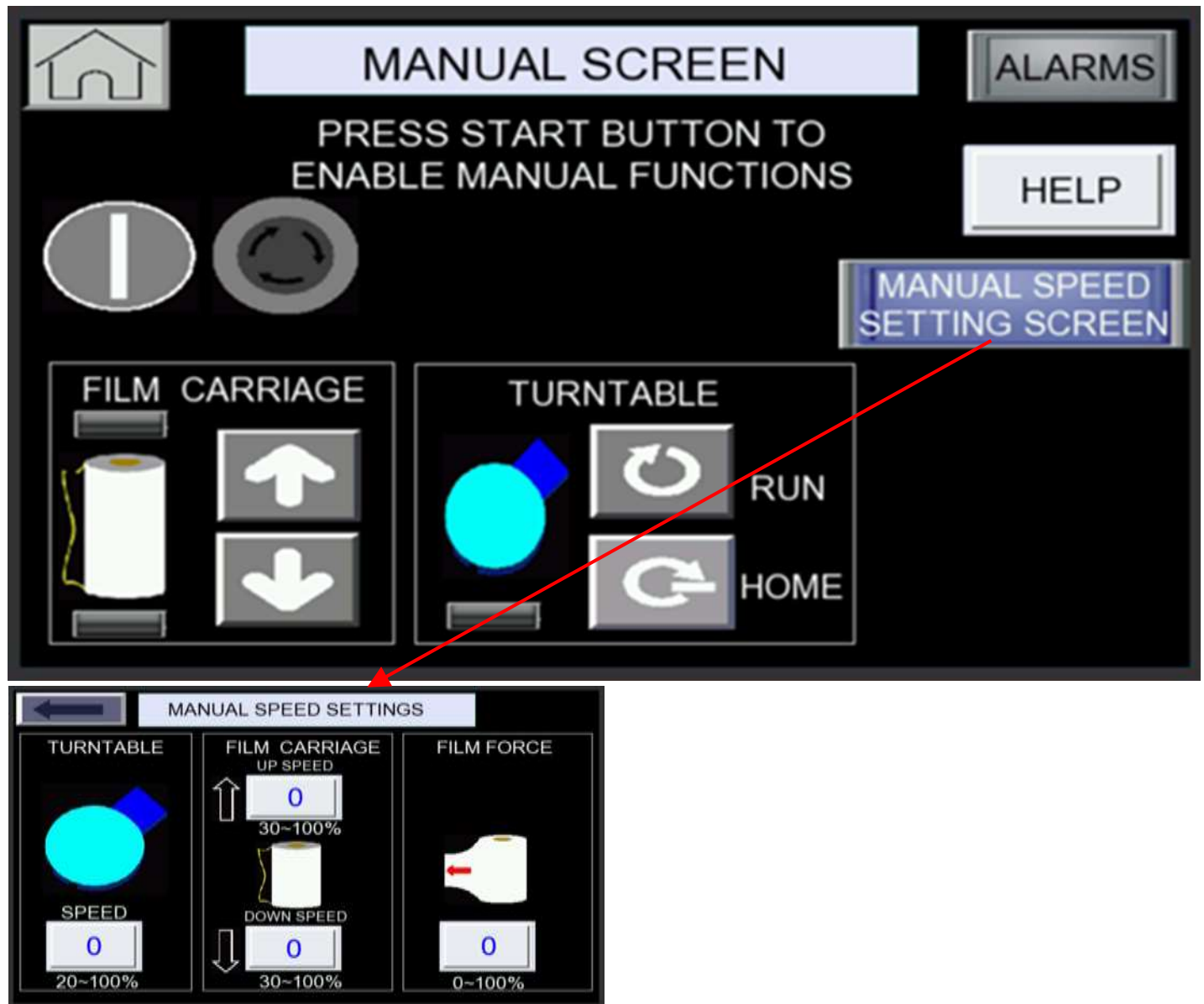
Home Page



Wrapping Set Up



Manual Model



3.6 PIN CODE

1. PIN:1234
2. Press "0000" to enter setting menu without PIN code.
3. Forgot PIN code: Contact your dealer for new PIN.

3.7 OPERATION CYCLE

1. Select A,B,C or D mode. Refer to HELP menu for further details.
2. Clear ALARM which shows on touch screen.
3. Select AUTO
4. Place pallet load onto turntable.
5. Install film roll according to film threading diagram (3.6 CARRIAGE UNIT)
6. Press START

3.8 CARRIAGE UNIT

Illustration of film threading

1. Open the safety door
2. Follow the threading diagram below with the direction of cling inside or outside.
3. Close the carriage safety door

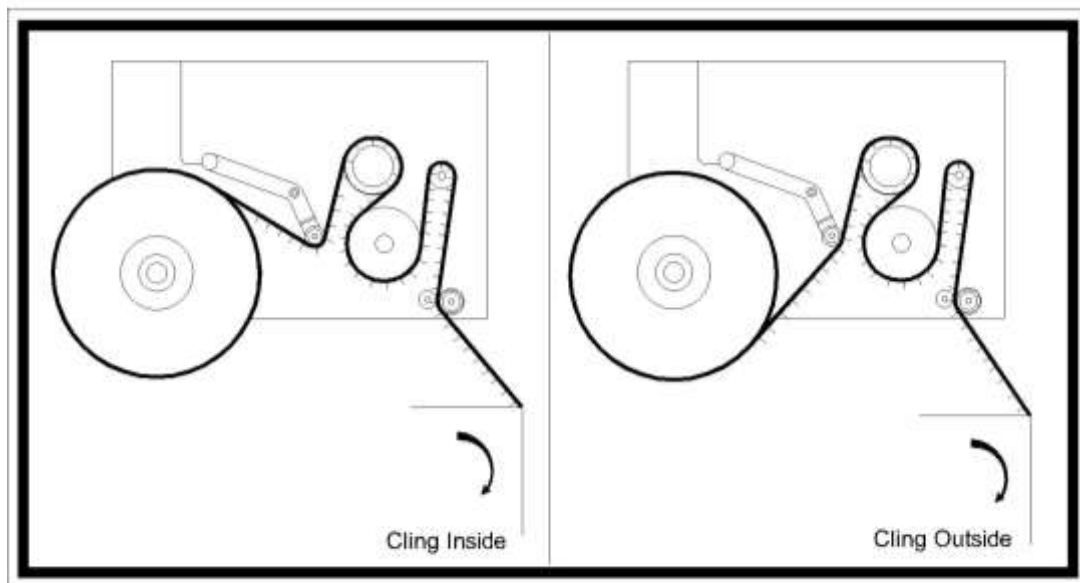
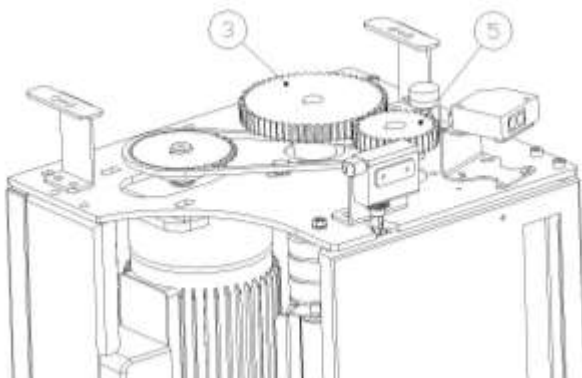


Illustration of Film Stretch Ratio Gear Change

1. Before replacing gear, please make sure machine is off and power is unplugged.
2. Loose the screws from gear “(3)” and “(5)”, and pull up to remove.
3. Replace gear with the preferred gear ration (see 6.3 CARRIAGE) and tighten the screws to secure gears.



4. ELETRICAL

4.1 ELECTRICAL CAPACITY

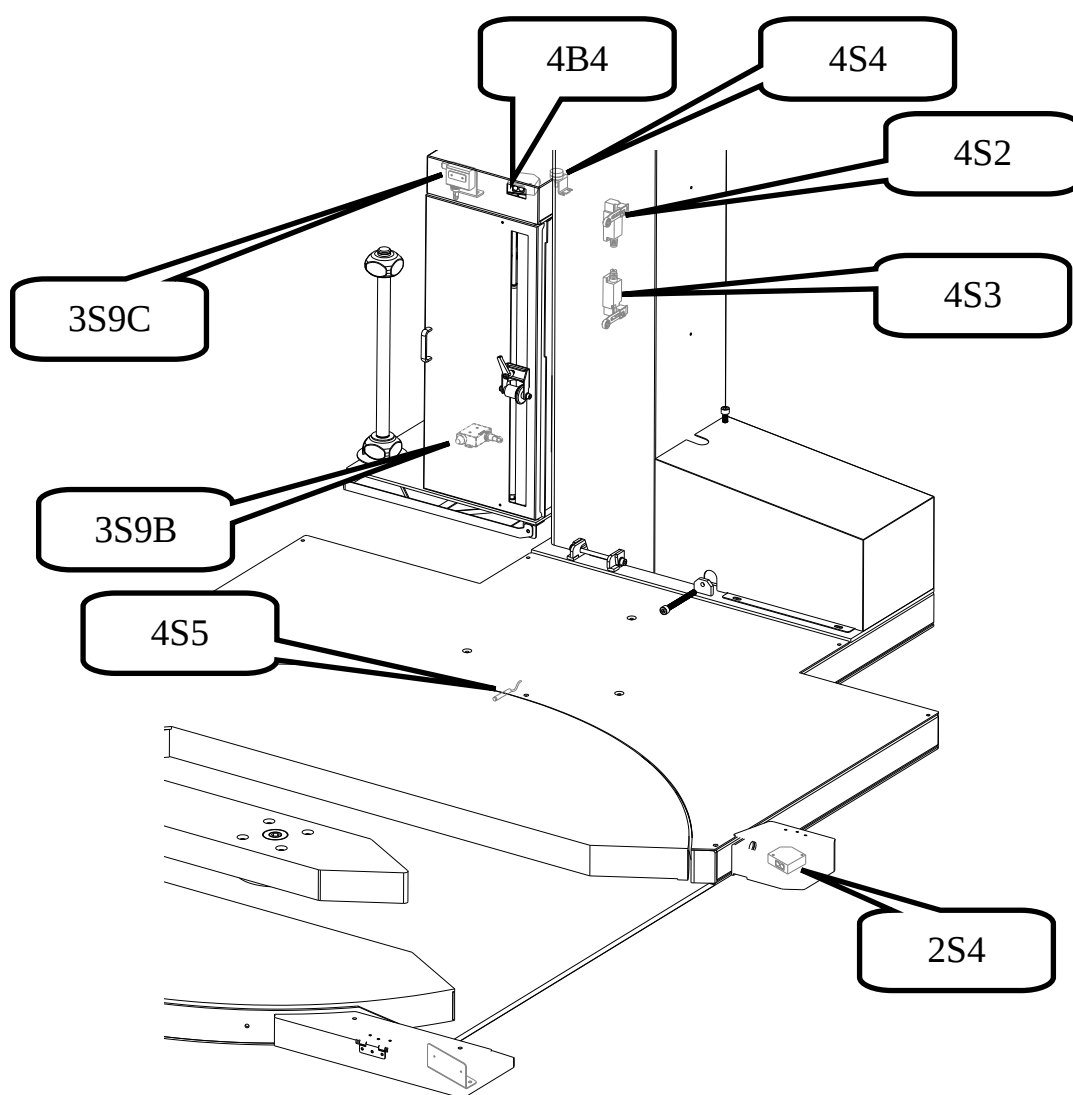
1) Specification

Pre-stretch motor	0.2 KW
Turntable motor	0.75 KW
Carriage motor	0.4KW
Control & wiring box	DC 24V
Power consumption	1.37 KW
Power requirement	1.5 KW

2) Power Cable ----- 1.5 mm²

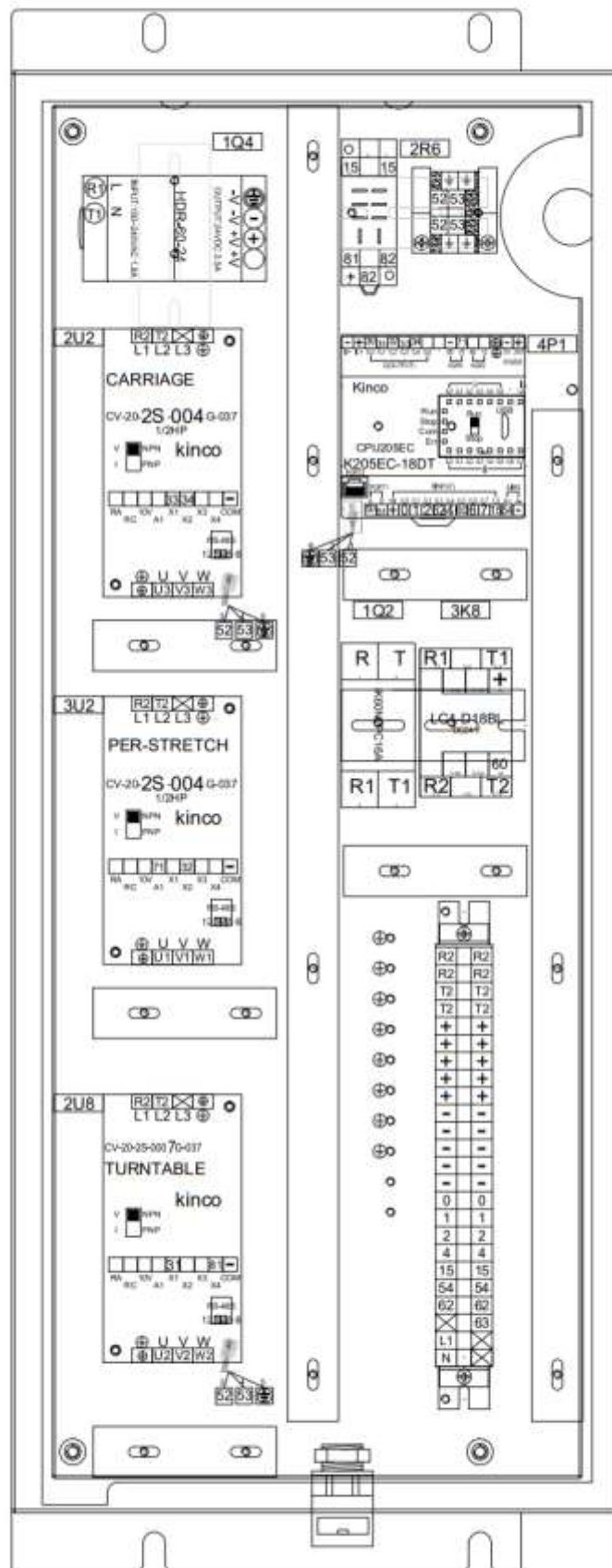
3) Machine input ----- 110V / 230V 1-PHASE

4.2 SENSOR / LIMIT SWITCH LOCATION



KEY NO	PART NO	DESCRIPTION	Q'TY
2S4	P0302-020000700	SAFETY PHOTO EYE (A3G-2MR)	1
	P0319-10P46PHT5	SAFETY PHOTO EYE (A3G-2MR) W/ PLUG	1
3S9B	P0311-060001400	SAFETY SWITCH FILM CARRIAGE (ML-7312)	1
3S9C	P0311-060001400	CARRIAGE DOOR LIMIT(ML-7312)	1
4S2	P0311-060001210	TOP LIMIT (TZ-8108)	1
4S3	P0311-060001210	BOTTON LIMT (TZ-8108)	1
4B4	P0302-020000200	PHOTO EYE (A3R-2MX)	1
	P0319-10P46PT08	PHOTO EYE (A3R-2MX) W/ PLUG	1
4S5	P0302-010001300	TURNTABLE HOME SENSOR (MS-08-10N)	1
	P0319-10P46PHT2	TURNTABLE HOME SENSOR (MS-08-10N) W/ PLUG	1
5R4	P0318-010000500	FILM FORCE VR(RV24YN20S B502(5KΩ))	1

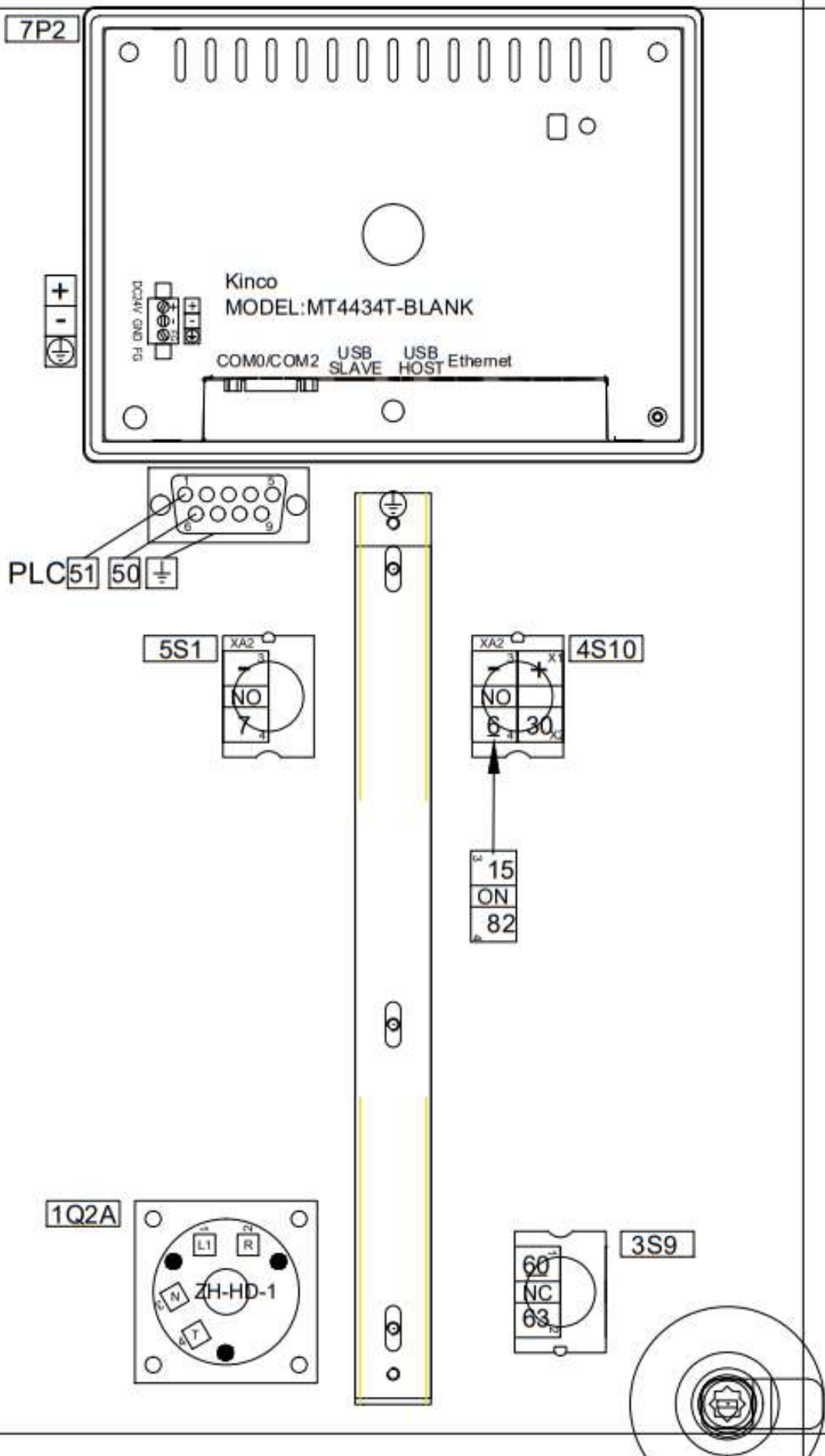
4.3 ELECTRICAL LAYOUT DIAGRAM(1)



. ELECTRIC PARTS LIST

KEY NO	PART NO	DESCRIPTION	Q'TY
1Q2	P0305-010001200	POWER FUSE (IK60N2PC16A)	1
1Q4	P0307-010002200	POWER 24VDC (HDR-6024 24Vdc-2.5A)	1
2U2	P0315-010003200 P0315-010003400	CV20-2S-0004G-037 INPUT:220V~240V 0.4kw CV20-1S-0004G-037 INPUT: 110V 0.4kW	1
2U7	P0315-010003300 P0315-010003500	CV20-2S-0007G-037 INPUT:220V~240V 0.75kW CV20-1S-0007G-037 INPUT: 110V 0.75kW	1 1
3U2	P0315-010003200 P0315-010003400	CV20-2S-0004G-037 INPUT:220V~240V 0.4kW CV20-1S-0004G-037 INPUT: 110V 0.4kW	1
3K7	P0306-010000400	POWER CONTACTOR (LC1D18BL,DC24V)	1
4P1	P0308-010005400	PLC K205EC-18DT DC24V	1

4.3 ELECTRICAL LAYOUT DIAGRAM (2)



ELECTRICAL LAYOUT

DRAW 2

PAGE 01 OF 03

DATE:2019.MAR.11

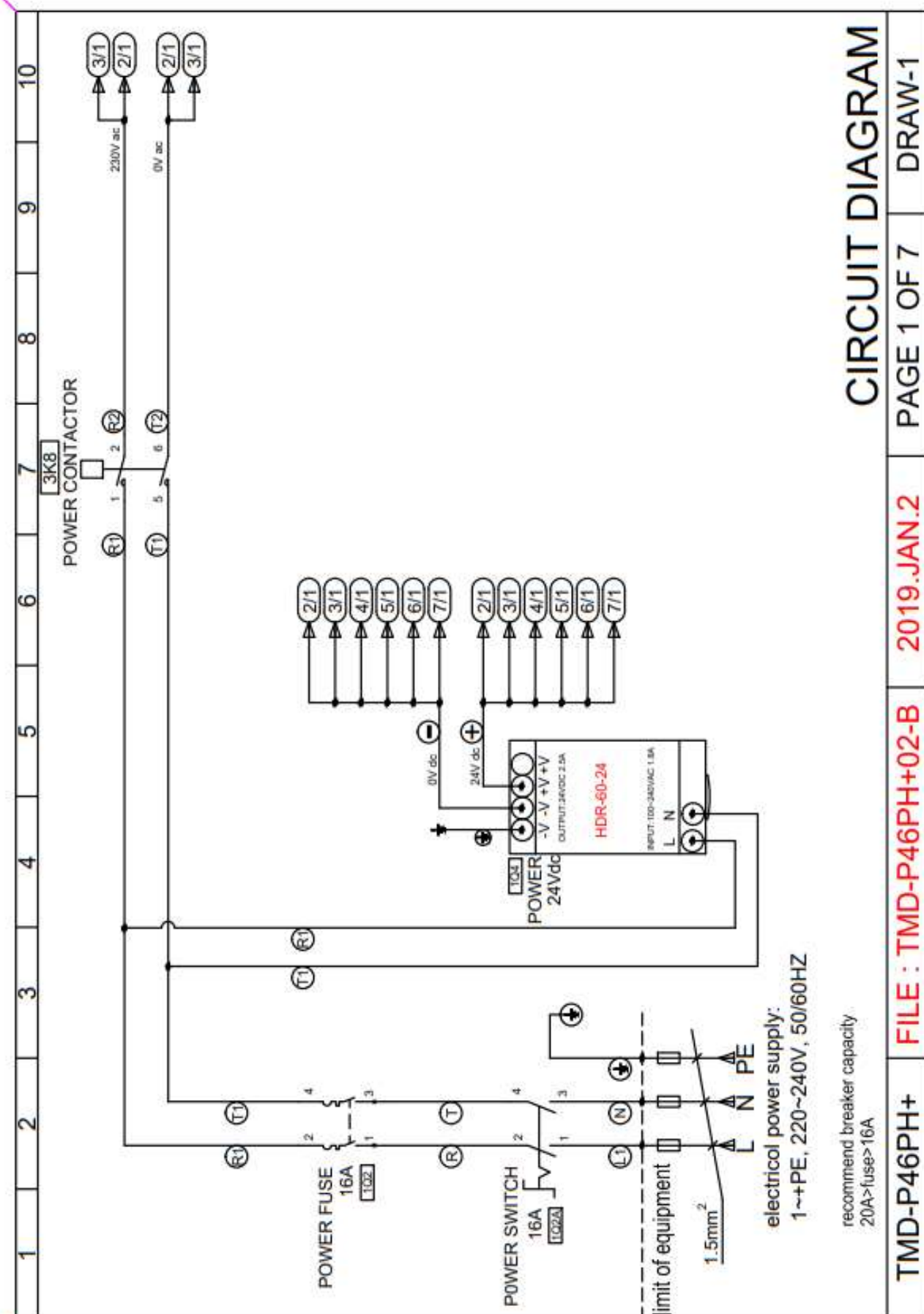
FILM:TMD-P46PH+03-A

MODEL:TMD-P46PH+

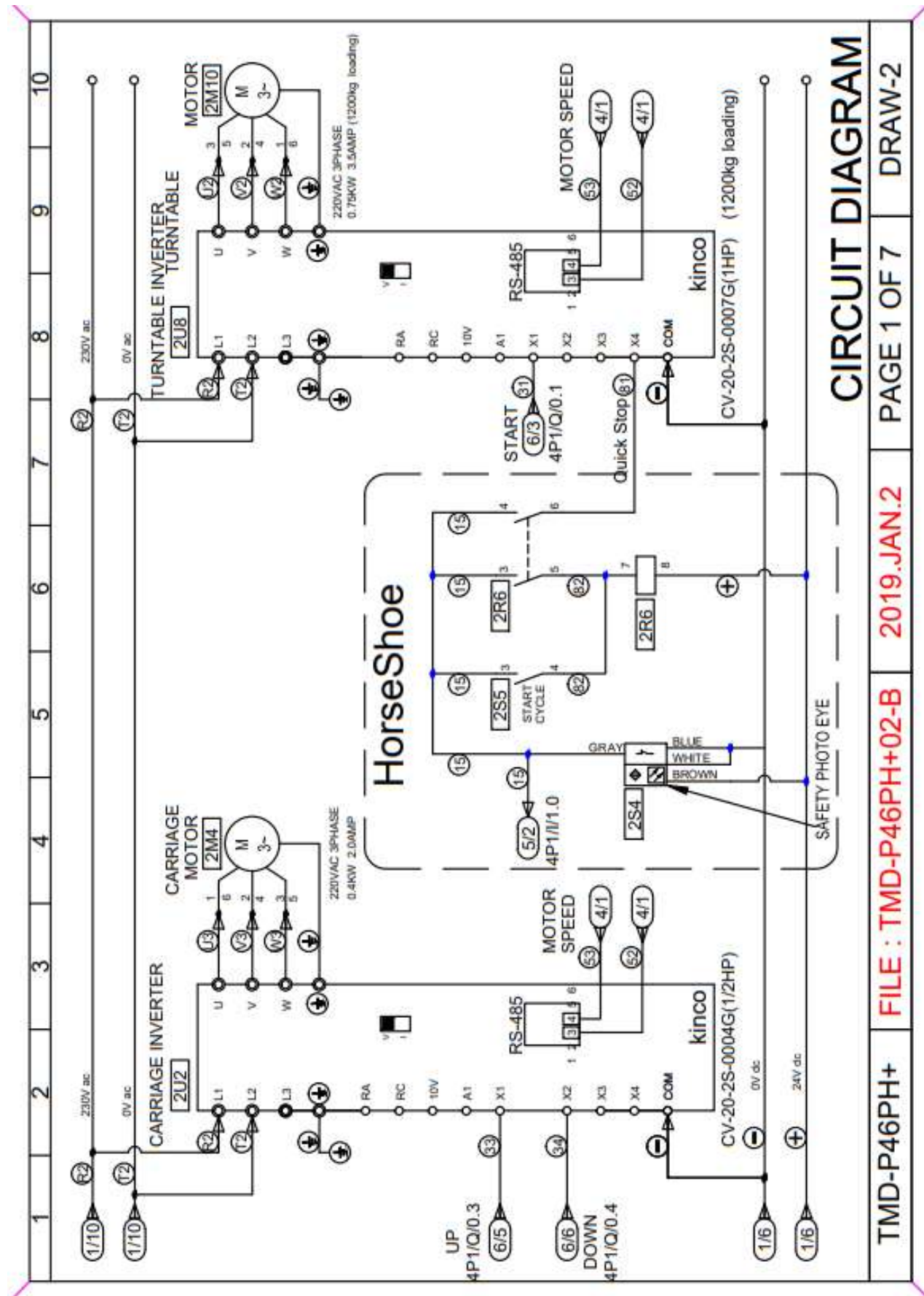
ELECTRIC PARTS LIST

KEY NO	PART NO	DESCRIPTION	Q'TY
1Q2A	P0311-010002800	POWER SWITCH (ZH-HD-48-BY)	1
3S9	P0313-020002800	EMERGENCY STOP (SKB2ES524-1B R) COVER+ CONTACT	1
4S10	P0313-020002900	START BUTTON (SKB2EW33B1) COVER+ CONTACT+ LAMP	1
5S1	P0313-020002600	STOP BUTTON (SKB2EA41-1A R) COVER+ CONTACT	1
7P2	P0327-010000700	TOUCH SCREEN (MT4434T(EN))	1

4.3 CIRCUIT DIAGRAM(1)

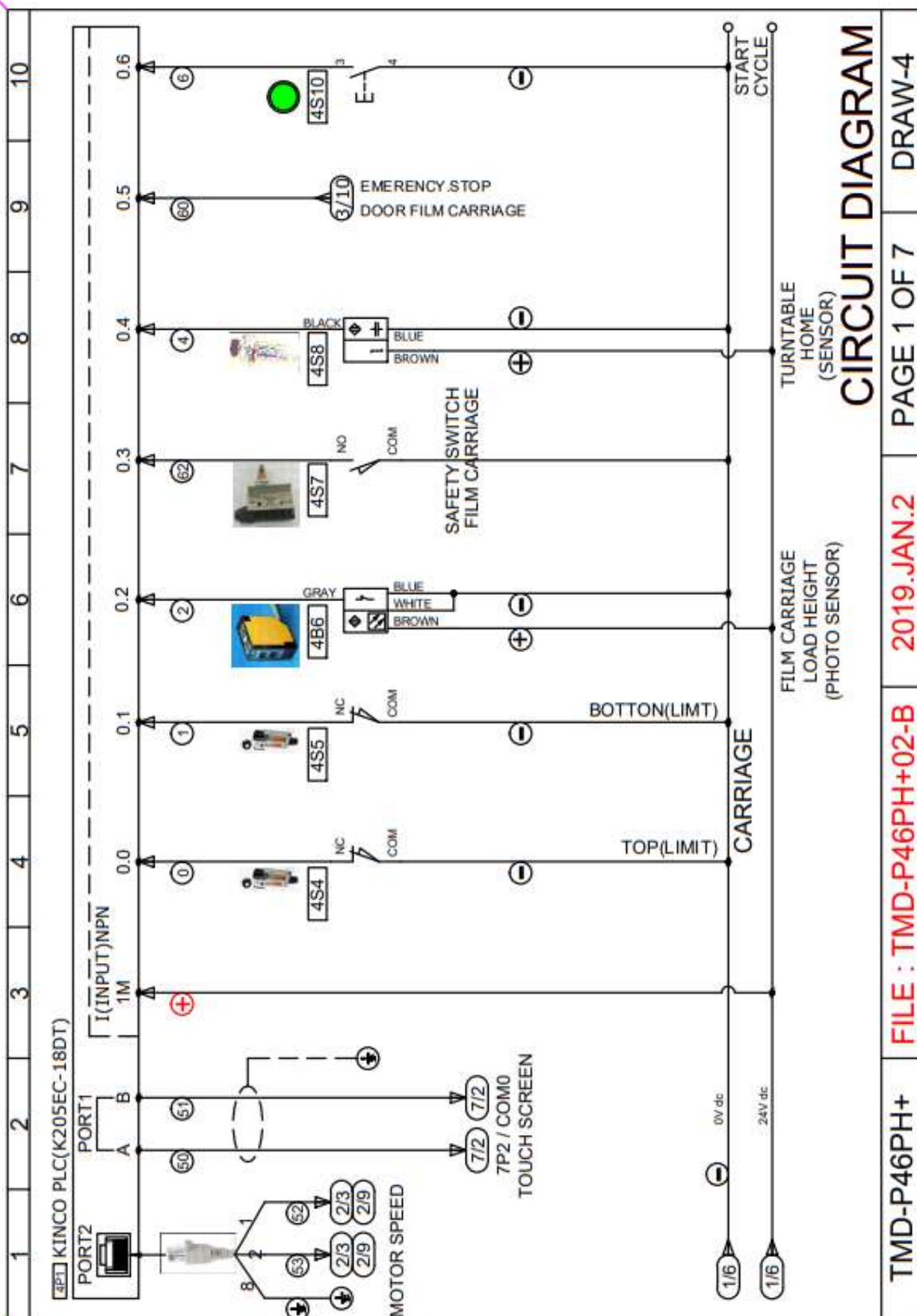


4.3 CIRCUIT DIAGRAM (2)

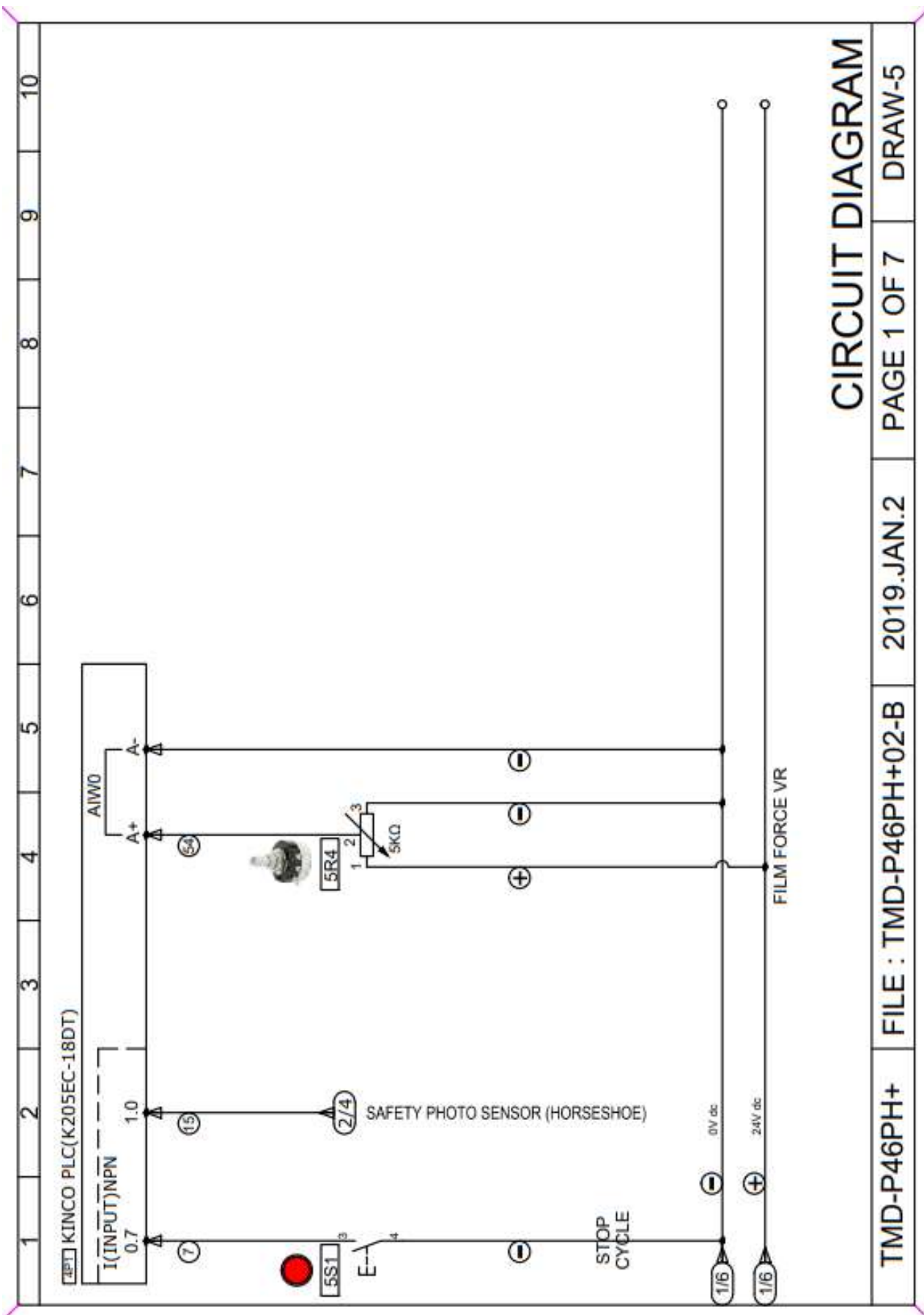


1	2	3	4	5	6	7	8	9	10
CIRCUIT DIAGRAM									
TMD-P46PH+			FILE : TMD-P46PH+02-B			2019.JAN.2		PAGE 1 OF 7	DRAW-3

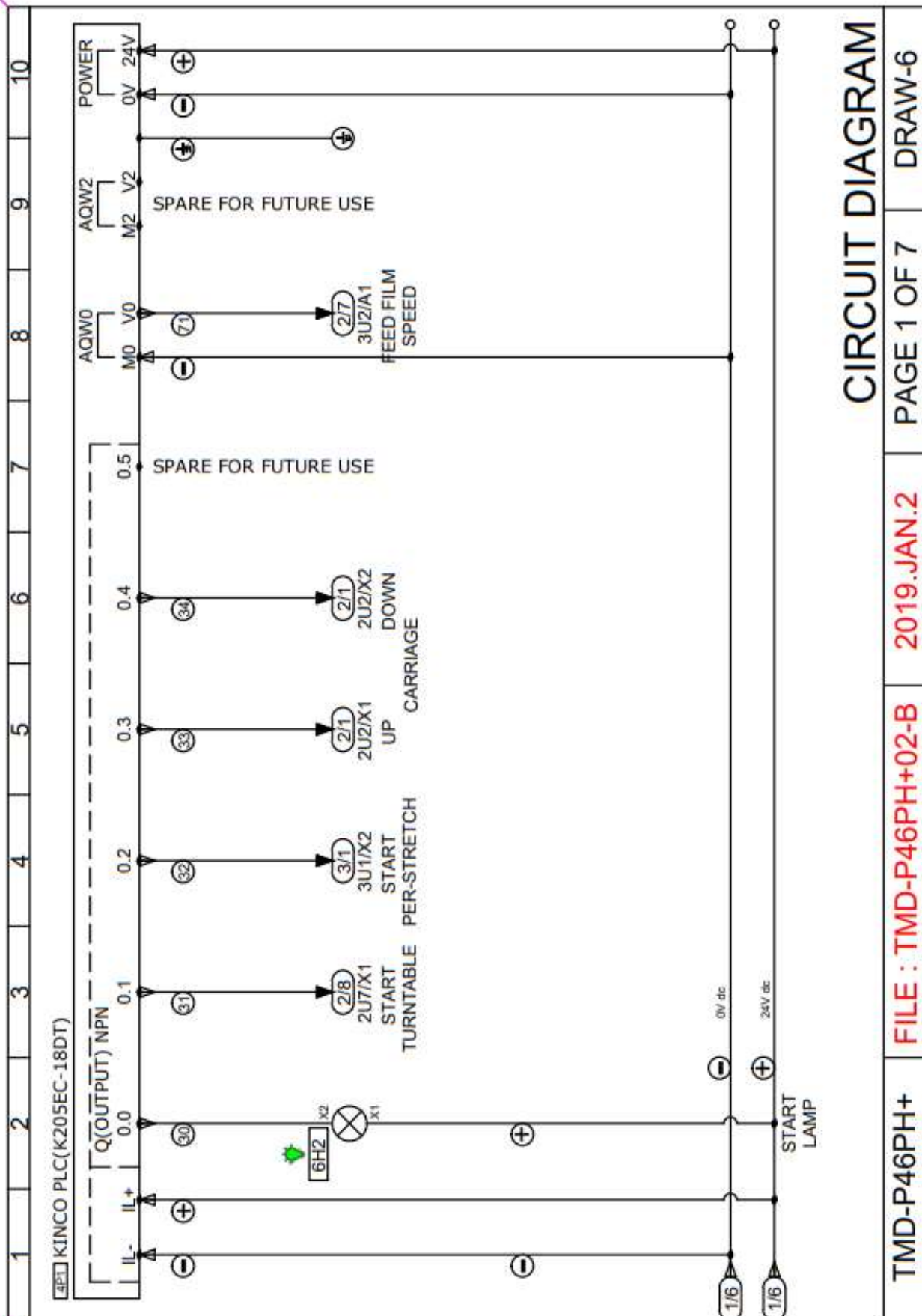
4.3 CIRCUIT DIAGRAM(4)



4.3 CIRCUIT DIAGRAM(5)



4.3 CIRCUIT DIAGRAM(6)



CIRCUIT DIAGRAM

DRAW-6

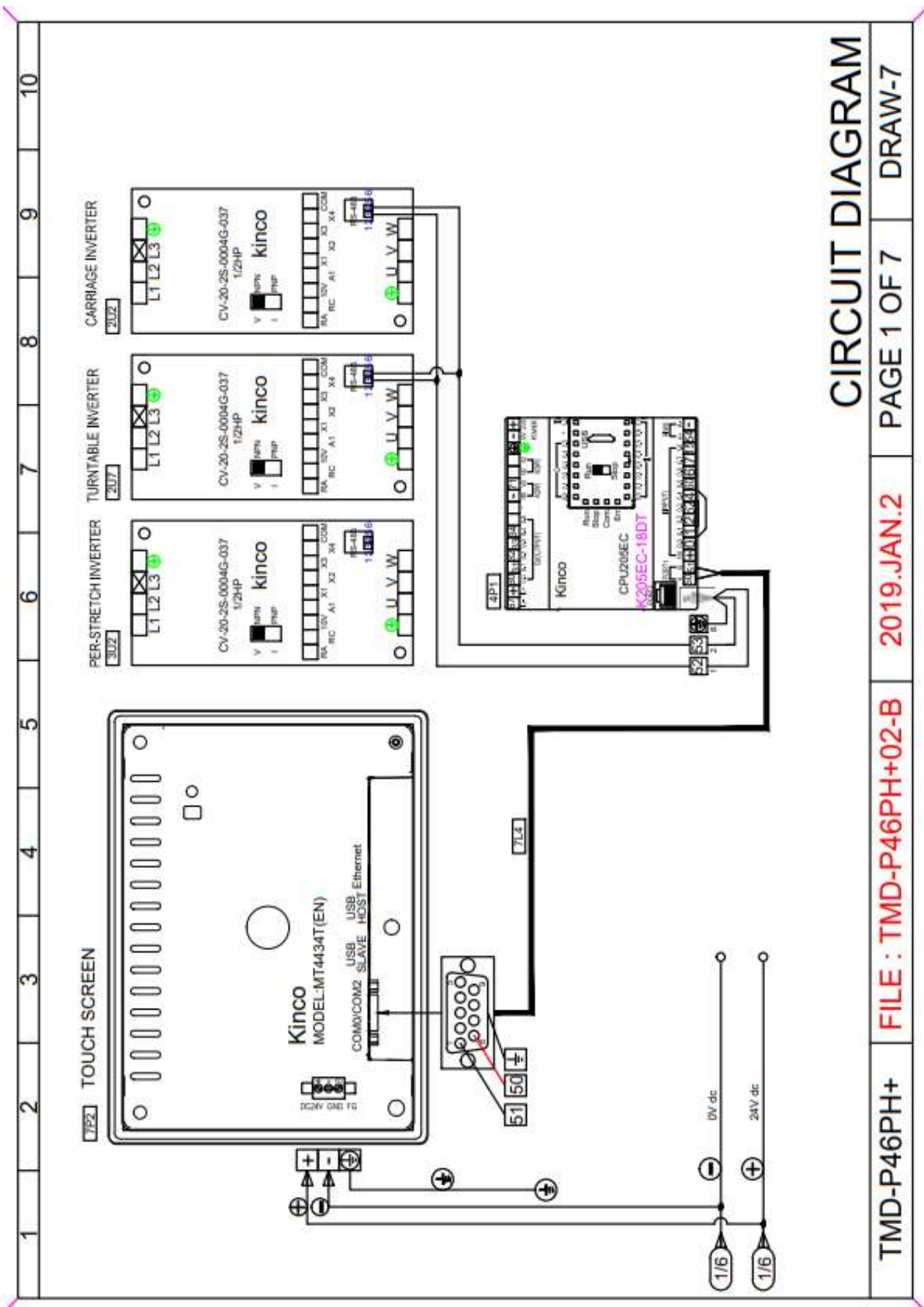
PAGE 1 OF 7

2019.JAN.2

FILE : TMD-P46PH+02-B

TMD-P46PH+

4.3 CIRCUIT DIAGRAM(7)



CIRCUIT DIAGRAM

DRAW-7

PAGE 1 OF 7

2019.JAN.2

FILE : TMD-P46PH+02-B

TMD-P46PH+

5. TROUBLE SHOOTING

5.1 TROUBLE SHOOTING 1/2

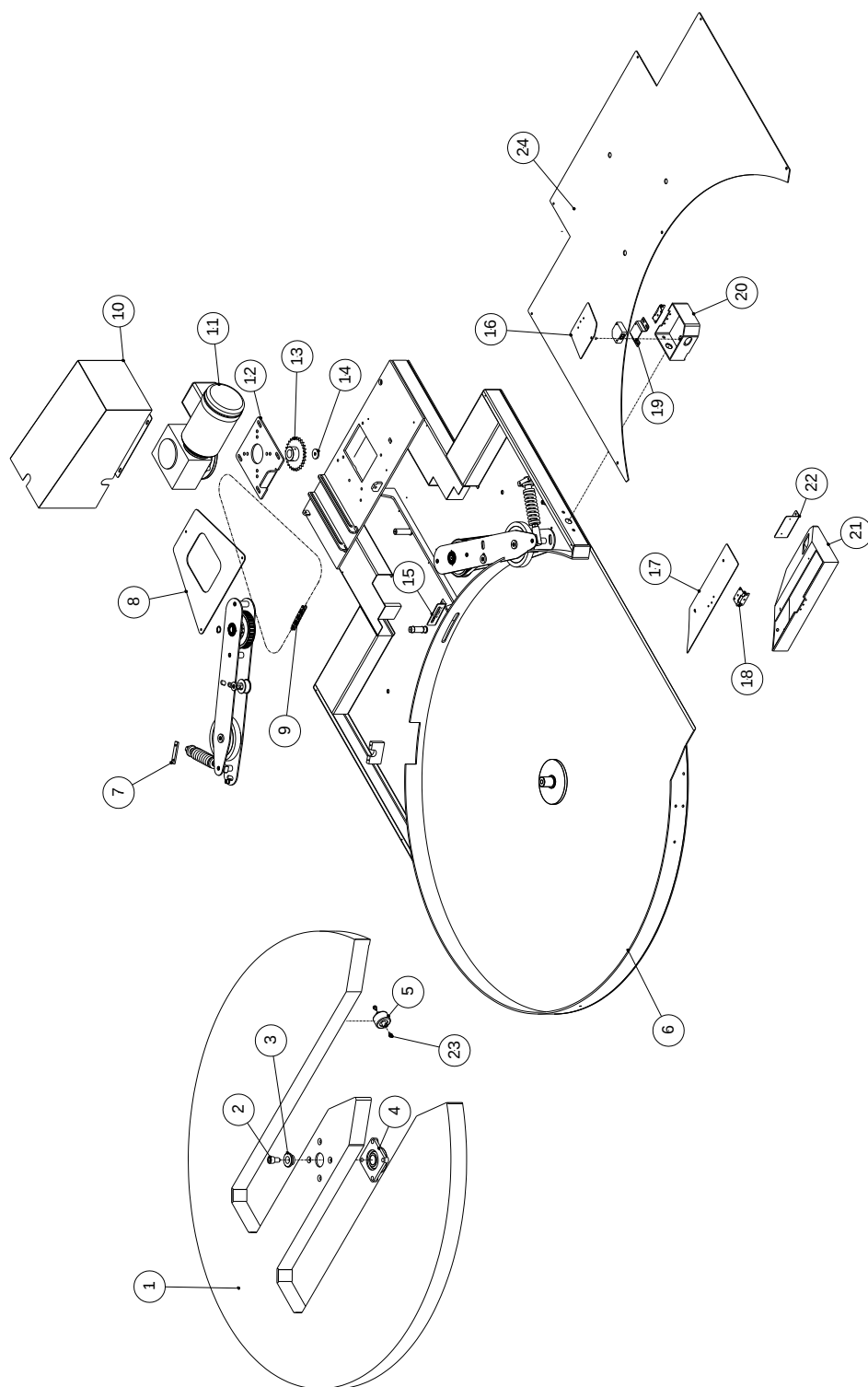
Machine trouble	Cause	Solution
Machine can not work	Power supply for motor is tripped Screen lamp not ON. Foot safety is broken.	Activate the power switch. Check micro- processor board. Release the safety s/w.
Turntable cannot turn	Microprocessor board broken Motor stop turning	Change microprocessor board Check error message from inverter and refer to
Turntable can not Stop at home position.	Turntable proximity S/W is not working.	Check the proximity S/W sense. If it is no problem adjust the sensing plate.
CARRIAGE unit cannot move.	Microprocessor board broken Motor stop turning.	Change microprocessor board 1.Check the proximity S/W sense. If it is no problem adjust the sensing plate. 4.3(4)ELECTRIC DIAGRAM (4S2)(4S3)
As doing AUTO RUN the CARRIAGE unit goes up and over the package height	Photo eye gets sense from another material except package. Photo sensor gets sense from another light source.	1.Move away other objects Avoid the light source. 2. Check the photo eye 4.3(4)ELECTRIC DIAGRAM (4B4)
As doing AUTO RUN but CARRIAGE cannot go up.	1.Photo eye broken Photo sensor cannot sense a black color package. 2. Photo eye broken Photo eye cannot sense a package. 3. Turntable proximity sensor is not working	1. Change photo eye. Avoid a black color package or use manual operation. 2. Check the photo eye 4.3(4)ELECTRIC DIAGRAM (4B4) 3. Check sensor 4.3(4) ELECTRIC DIAGRAM (4B4)

5.1 TROUBLE SHOOTING 2/2

Machine trouble	Cause	Solution
Pre-stretch motor cannot work	1. MOTOR PRE-STRETCH SENSOR FAULTY 2. PRE-STRETCH INVERTER FAULTY	1.CHECK PRE-STRETCH SENSOR 4.3(4)ELECTRIC DIAGRAM(4S4) 2.CHECK PRE-STRETCH INVERTER 4.3(2)ELECTRIC DIAGRAM(2U2)

6.PART LIST

6.1 SEAT



PART LIST FOR TMD-P46PH

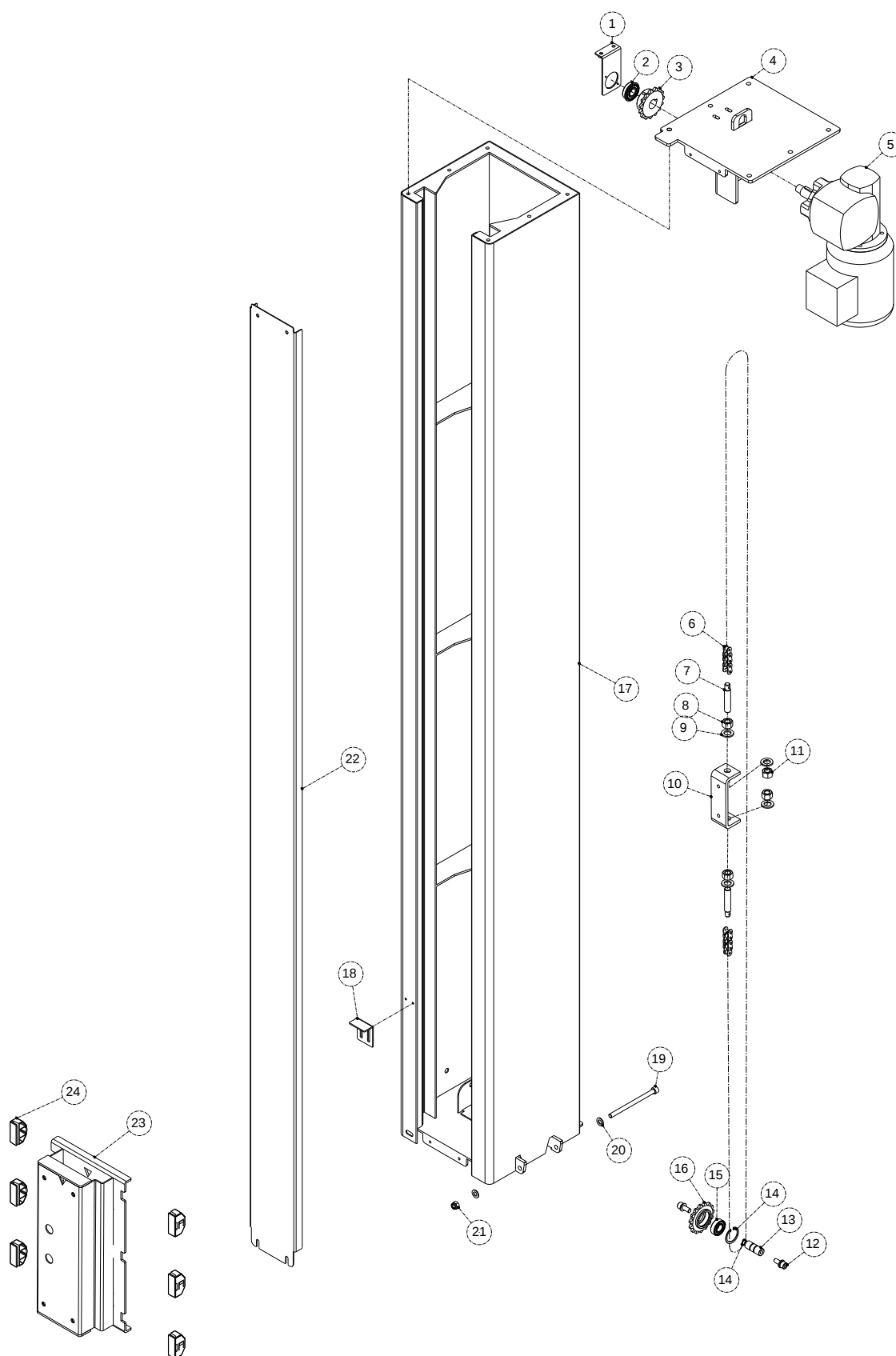
KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-008730A	HORSESHOE BASE FRAME	1
2	P1101-0516025AN	SCREWS M16*25L	1
3	P02-0060300	TURNTABLE CENTER PLATE	1
4	P1104-1035010	BEARING UCF-207	1
5	P06-0028200	SUPPORTING PLASTIC WHEEL SET	15
6	P01-045320A	TURNTABLE FRAME → 90°	1
	P01-0471400	TURNTABLE FRAME → 180°	1
7	P01-0088200	PRESS PLATE	2
8	P01-0087900	TORQUE PLATE	1
9	P0901-0010500	CHAINS #40*156	1
10	P01-045340B	MOTOR COVER	1
11	P0503-0008800	TURNTABLE MOTOR, 1HP 3-PH, 220V/380V	1
12	P01-0453300	MOTOR BASE PLATE	1
13	P0702-0004200	SPRAKET SHAFT	1
14	P01-0066100	SPACER WASHER	1
15	P01-0087800	LIMITED SWITCH SEAT	1
16	P01-008770B	RIGHT COVER PLATE	1
17	P01-008760B	LEFT COVER PLATE	1
18	P01-0021600	PHOTOCELL REFLECT SEAT	2
19	P01-008800A	PHOTOCELL SETTING SEAT	1
20	P01-0200300	PHOTO SENSOR BOX(L)	1
21	P01-0200400	PHOTO SENSOR BOX(R)	1
22	P01-008810A	PHOTO SERSOR REFLECTOR	1
23	P1101-0906016AN	SCREW M6*16L	30
24	P01-0453500	FRONT COVER PLATE	1



PART LIST FOR TMD-P46PH

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-0088500	TENSION ADJ.PLATE	1
2	P1101-0406020AN	SCREW M6x20L	3
3	P01-0058700	SPACER	3
4	P1104-026204ZZ0	BEARING 6204ZZ	2
5	P06-0016200	FRICTION WHEEL	1
6	P0703-000240A	TIMING PULLEYS	1
7	P1101-0506030AN	SCREW M6*30L	4
8	P02-0008500	RING	1
9	P1101-0508050AN	SCREW M8*50L	1
10	P02-0060400	TENSION WHEEL SHAFT	1
11	P06-0028300	TENSION ADJ. WHEEL	1
12	P1101-0508016AN	SCREW M8*16L	1
13	P0902-0000500	TIMING BELT	1
14	P1104-026204ZZ0	BEARING 6204ZZ	2
15	P0702-000410A	CHAIN WHEEL	1
16	P0703-0002500	TIMING PULLEYS	1
17	P1101-0506030AN	SCREW M6*30L	4
18	P1104-076004ZZ1	BEARING 6004ZZ-NR(CWB)	2
19	P01-0088400	FRICTION WHEEL SEAT	1
21	P02-0060000	RING	1
22	P02-0059900	CONNECTOR	1
23	P02-0060200	SPRING SEAT	1
24	P1201-0002400	PRESS SPRING	1
25	P02-0060200	SPRING SEAT	2
26	P02-0060100	ADJ.SCREW	1

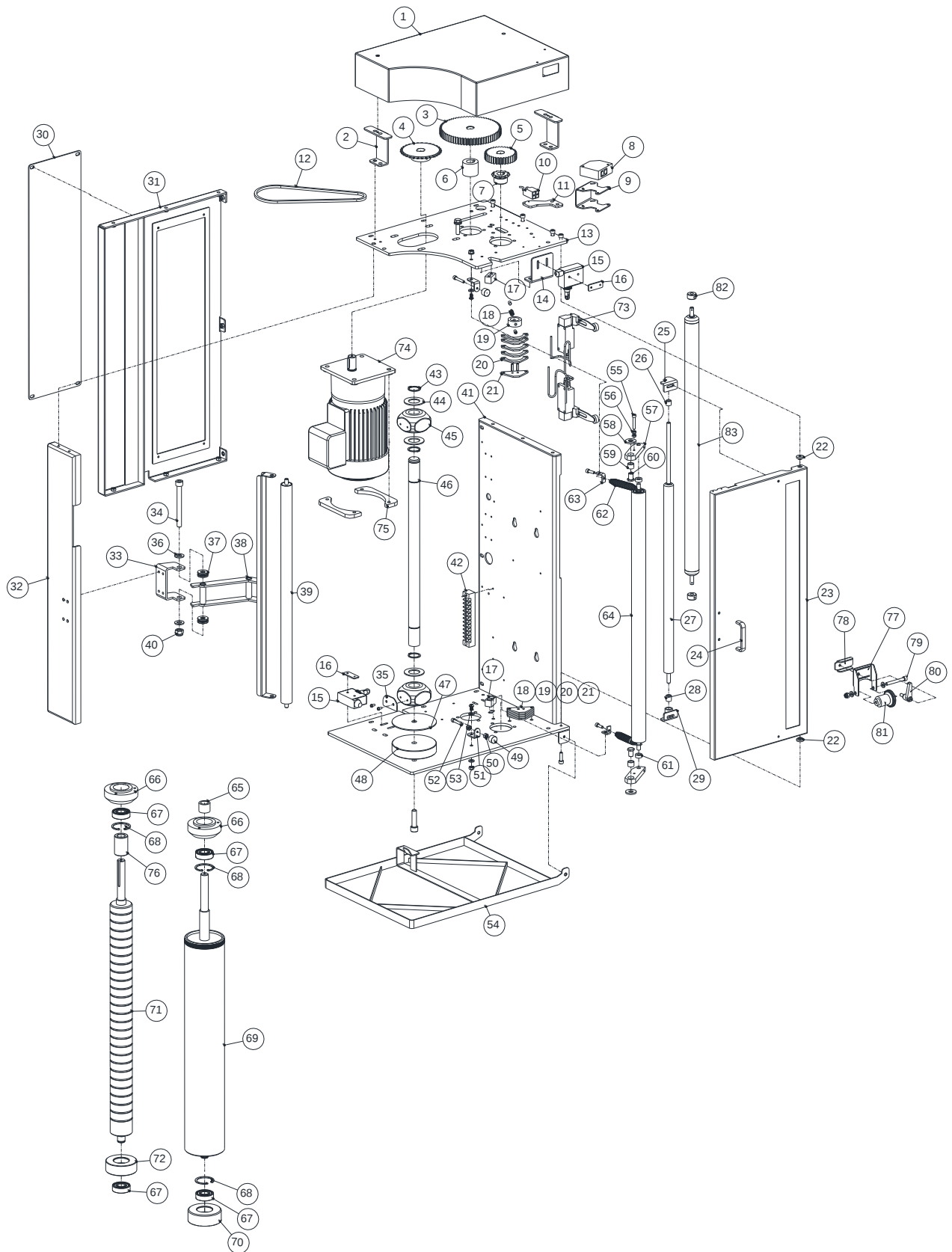
6.2 TOWER



PART LIST FOR TMD-P46P

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-0441100	SPPED REDUCER BEARING SEAT	1
2	P1104-076202ZZ0	BEARING 6202-2NR(CWB)	1
3	P0702-0009500	SPROCKET WHEEL (UPPER)	1
4	P01-0443200	TOWER COVER	1
5	P0502-0003100	MOTOR GEAR RDUCER 1/2HP 3PHASE AC220V/380V 1/50	1
6	P0901-0010400	CHAIN – 2.2M, #40*326	1
	P0901-0010600	CHAIN – 2.6M, #40x398	1
7	P02-0007500	CHAIN SCREW SHAFT	2
8	P1102-0112AZ	NUT M12	2
9	P1103-011224D5Z	WASHER M12	4
10	P01-0018700	CHAIN ADJUST SEAT	1
11	P1102-0106BZ	NUT M6	2
12	P1101-0908020AN	SCREW M8x20L	2
13	P02-0289000	SPROCKET WHEEL SHAFT	1
14	P1105-0235B	C-CLIP R-35	1
15	P1104-026002ZZ0	BEARING 6002ZZ(CWB)	1
16	P0702-0000200	SPROCKET WHEEL (LOWER)	1
17	P01-044070A	TOWER – 2.2M	1
	P01-0452100	TOWER – 2.6M	1
18	P01-0458900	LIMIT STOP	1
19	P1101-0508120AN	SCREW M8x120L	1
20	P1103-010816C5Z	WASHER M8	2
21	P1102-0108BZ	NUT M8	1
22	P01-0440800	TOWER COVER – 2.2M	1
	P01-0452200	TOWER COVER – 2.6M	1
23	P01-044090A	SLIDE CART	1
24	P06-004730A	SLIDE BLOCK	6

6.3 CARRIAGE



PART LIST FOR TMD-P46P

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-0443300	CARRIAGE COVER	1
2	P01-0443400	CARRIAGE COVER BRACKET	2
3	P06-004780A	GEAR 67T(P26P-300%)	1
	P06-0052700	GEAR 62T(P26P_200%)	1
4	P06-0047600	PRE-STRETCH MOTOR GEAR (29T)	1
5	P06-0047700	GEAR 27T(P26P-300%)	1
	P06-0052800	GEAR 32T(P26P-200%)	1
6	P06-0049900	GEAR BUSHING	1
7	P0702-0000500	SPROCKET 12T	1
8		IN 4.2(1)ELECTRIC PARTS LIST	
9	P01-042170A	PHOTO SENSOR BRACKET	1
10		IN 4.2(1)ELECTRIC PARTS LIST	
11	P01-0453600	SENSOR SEAT	1
12	P0901-0002100	CHAIN #35x57	1
	+P0901-0001900	CHAIN LINK	1
	+P0901-0005500	CHAIN CONNECT LINK	1
13	P01-044370B	CARRIAGE TOP FRAME	1
14	P01-0443600	LIMIT SWITCH BRACKET	1
15		IN 4.2(1)ELECTRIC PARTS LIST	
16	P01-0006700	FIX PLATE	2
17	P06-0002800	BLOCK	2
18	P1201-0000200	SPRING	2
19	P06-0003100	RING	2
20	P01-0013900	BLOCK	10
21	P01-0014000	PLATE	2
22	P02-0005300	RING	2
23	P01-0444000	SAFETY DOOR FRAME	1
24	P1112-0001000	DOOR HANDLE	1
25	P01-0444100	ROLLER BEARING SEAT (UPPER)	1
26	P1104-05HK08100	BEARING HK0810	1

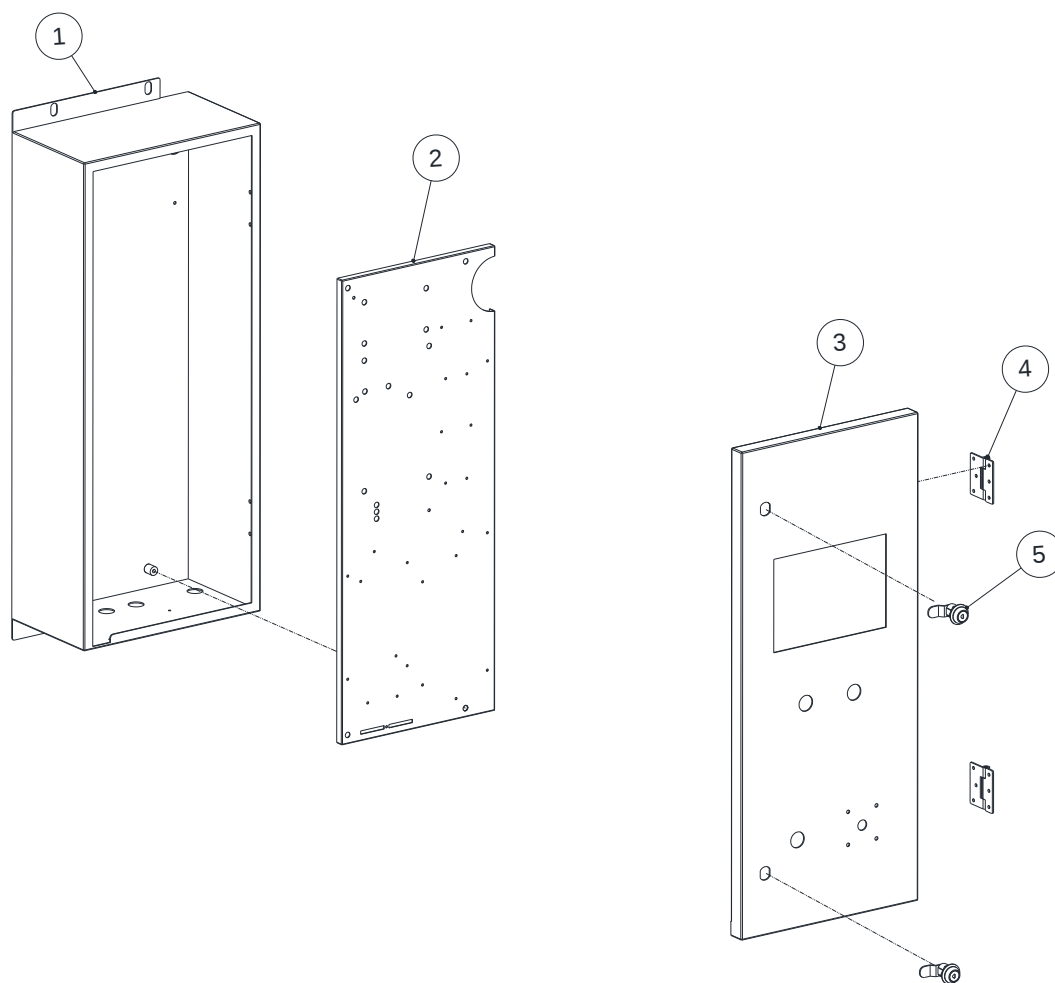
PART LIST FOR TMD-P46P

KEY NO	PART NO	DESCRIPTION	Q'TY
27	P08-000160A	IDLE ROLLER	1
28	P1104-17HF08120	BEARING HF0812	1
29	P01-044420A	ROLLER BEARING SEAT (LOWER)	1
30	P01-0452800	CARRIAGE SERVICE DOOR	1
31	P01-044380A	CARRIAGE SAFETY COVER (REAR)	1
32	P01-0444700	CARRIAGE SAFETY COVER (SIDE)	1
33	P01-001350A	ARM SEAT	1
34	P1101-1010110CZ	SCREW M10x110L	1
35	P01-0441400	FILM MANDREL BRAKE STOP	1
36	P1103-01102002Z	WASHER M10x20x2t	2
37	P1104-11511000	BEARING 51100	2
38	P01-044480A	ROLLER SWING ARM	1
39	P08-0001400	ROLLER SHAFT ASSY	1
40	P1102-0110BZ	NUT M10	1
41	P01-044390C	CARRIAGE MAIN FRAME	1
42	P0304-010005600	CONNECTOR HOUSING, 12P 15A	1
43	P1105-0224B	C-CLIP R-24	3
44	P01-0441500	WASHER (45x25.5x2t)	3
45	P06-004750A	FILM MANDREL	2
46	P02-0288200	FILM SHAFT SEAT	1
47	P06-0048300	FILM SEAT BASE SHEET	1
48	P02-028830A	FILM SEAT	1
49	P1106-020000100	MAGNETIC (FOR SAFETY DOOR)	2
50	P1102-0105AZ	NUT M5	4
51	P01-0452300	MAGNETIC SEAT	2
52	P1101-0505030AN	SCREW M5*30L	2
53	P1101-0606020AN	SCREW M6x20L	2
54	P01-0444600	SAFETY PEDAL	1
55	P1101-0505030AN	SCREW M5*30L	1
56	P1102-0105AZ	NUT M5	2
57	P02-000490A	SWINGING BAR	2

PART LIST FOR TMD-P46P

KEY NO	PART NO	DESCRIPTION	Q'TY
58	P02-0003200	RING	2
59	P1104-05HK10100	BEARING HK1010	2
60	P02-0005000	SHAFT	2
61	P02-0025200	SPACER	2
62	P1202-0001600	SPRING	2
63	P01-0011900	SPRING SEAT	2
64	P08-0001500	IDLER ROLLER SET	1
65	P06-0047900	BEARING BUSHING	1
66	P02-0288400	BEARING SEAT	3
67	P1104-026203ZZ0	BEARING 6203ZZ(CWB)	4
68	P1105-0242B	C-CLIP R-42	3
69	P08-000400B	PRE-STRETCH ROLLER	1
70	P02-0295200	BEARING SEAT	1
71	P08-0000310	PRE-STRETCH ROLLER	1
72	P02-0288500	BEARING SEAT	1
73		IN 4.2(1)ELECTRIC PARTS LIST	
74	P0501-0014300	PRE-STRETCH MOTOR 1/4HP, 3-PH AC220V/380V	1
75	P01-0007200	ADJUSTING PLATE	2
76	P06-004800A	PLASTIC TUBE	1
77	P01-0457100	MOLDING SEAT	1
78	P01-0457200	FIX CLIP	1
79	P1101-0508060AN	SCREW M8x60L	1
80	P1112-0001100	HANDLE 6x13#A80/A60TS	1
81	P06-0052400	ROLLER	1
82	P02-0002700	ROLLER FIX RING	2
83	P08-000120C	ROLLER SET	1

6.4 CONTROL BOX



PART LIST FOR TMD-P46P

KEY NO	PART NO	DESCRIPTION	Q'TY
1	P01-045560A	CONTROL BOX	1
2	P01-0512300	WIRING PLATE	1
3	P01-0512200	CONTROL BOX COVER	1
4	P01-0021600	HINGE (R)	2
5	P1118-010000200	LOCK C-403*1"	2
	P1118-030000100	KEY	2
	P1118-020000100	LOCK PLATE	2