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EXP-101 - PALLET WRAPPER MANUAL

OPERATION MANUAL

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1. GENERAL

1.1 Notice of installment

To make sure of a safe and correct operation, please check the below items before installing the machine:

- 1) Power source capacity must be larger than the machine need.
- 2) A shorter ground wire is better.
- 3) Machine standard power is 110V/220V (-15% - +10%).
- 4) Machine standard power Hertz is 50/60 Hz. ($\pm 2\%$)
- 5) Machine is good between temperatures 0°C - 45°C .
- 6) Any thing/substance around the machine should not produce loud noise and vibration.

1.2 Notice of operation

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

- 1) Before operating, please read the machine manual carefully.
- 2) Make sure no good have been put on the power cable.
- 3) Make sure no goods been have put on the upper tape head unit.
- 4) Don't allow damp parts or water to touch the electric parts.
- 5) Do not stand on or go across the machine during operation.
- 6) Avoid film winded into the turntable.

2. SPECIFICATION

2.1 Spec. table

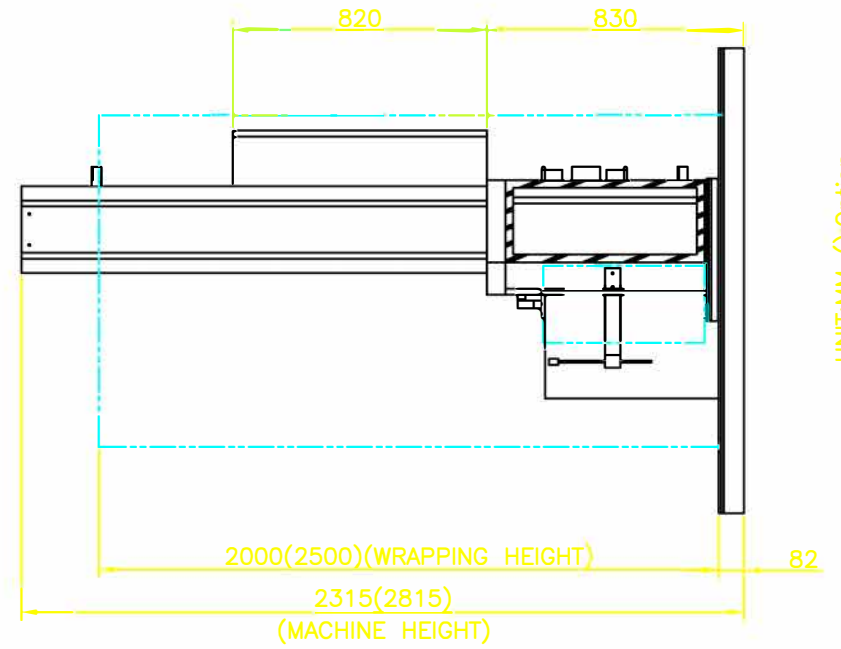
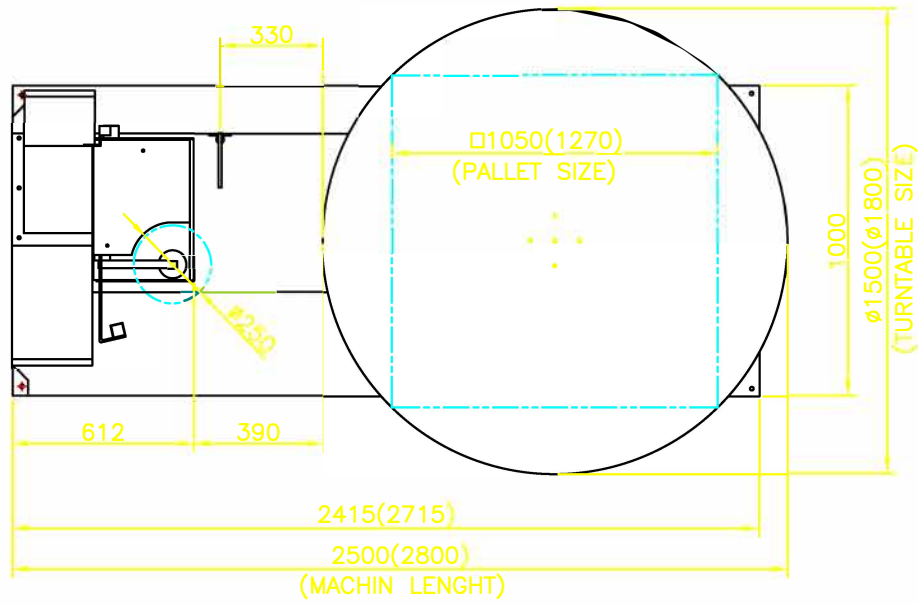
model	EXP-101	
Turntable speed	0-10 RPM	
Turntable dia.	1500mm	
Tower height	2100mm	
Max. wrapping height	2000mm	
Max. wrapping size	1050x1050mm	
Max. loading weight	1500Kgs	
Film stretch (%)		
Film tension	Adjustable	
Elevator unit speed	Adjustable	
Max. film spec.	§ 250x500mm	
Turntable height	82mm	
Ramp (slope) spec.	1165x1000mm	
Machine size	2500x1500x2315mm	
Machine net weight	500Kgs	

Standard option:

- *Top pressure by DC motor driven.
- *1.8 meters dia. turntable.
- *2.5 meters wrapping height
- *2000 Kgw loading

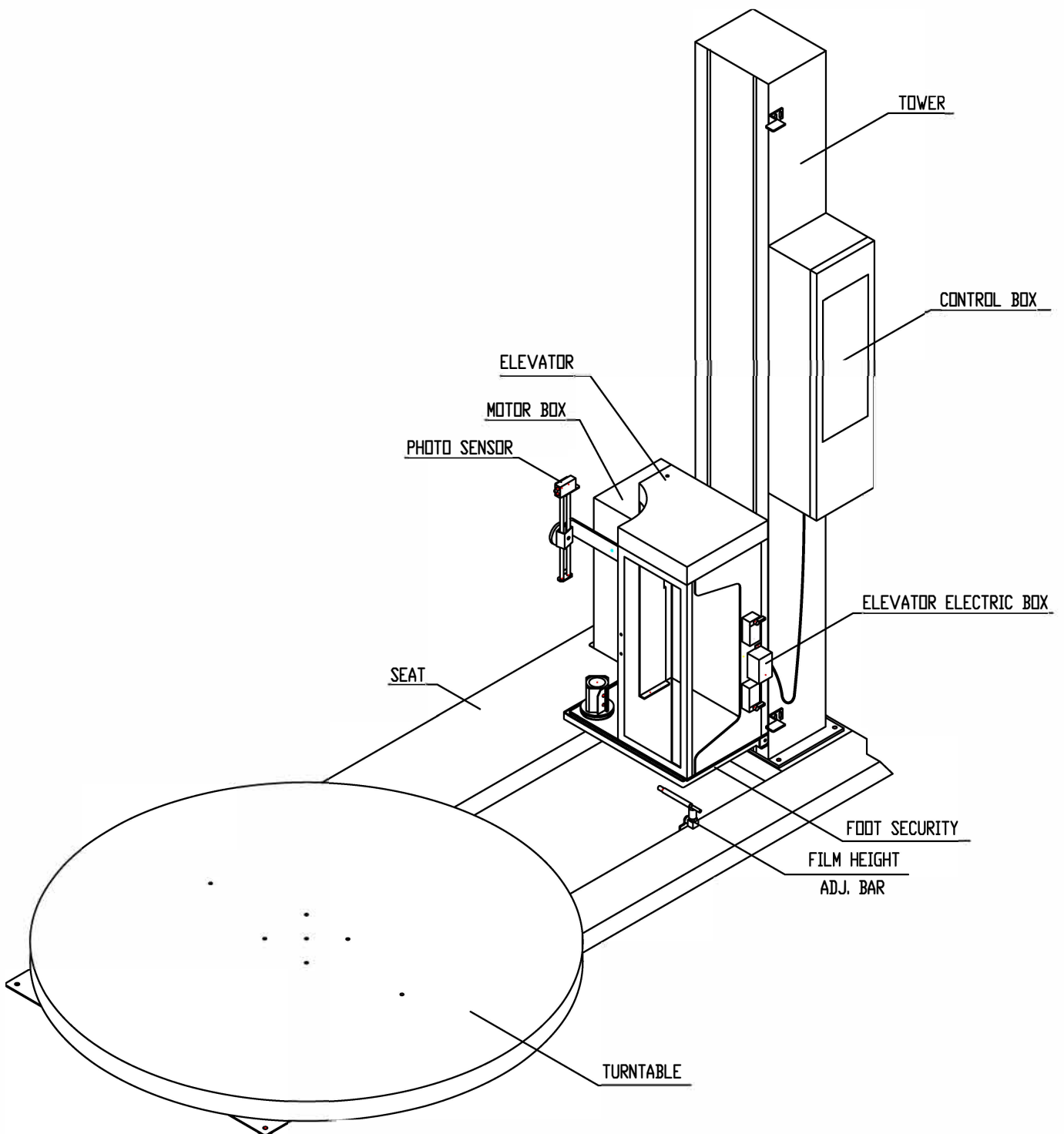
2.2 Machine dimension

MODEL : EXP-101



UNIT:MM () Option

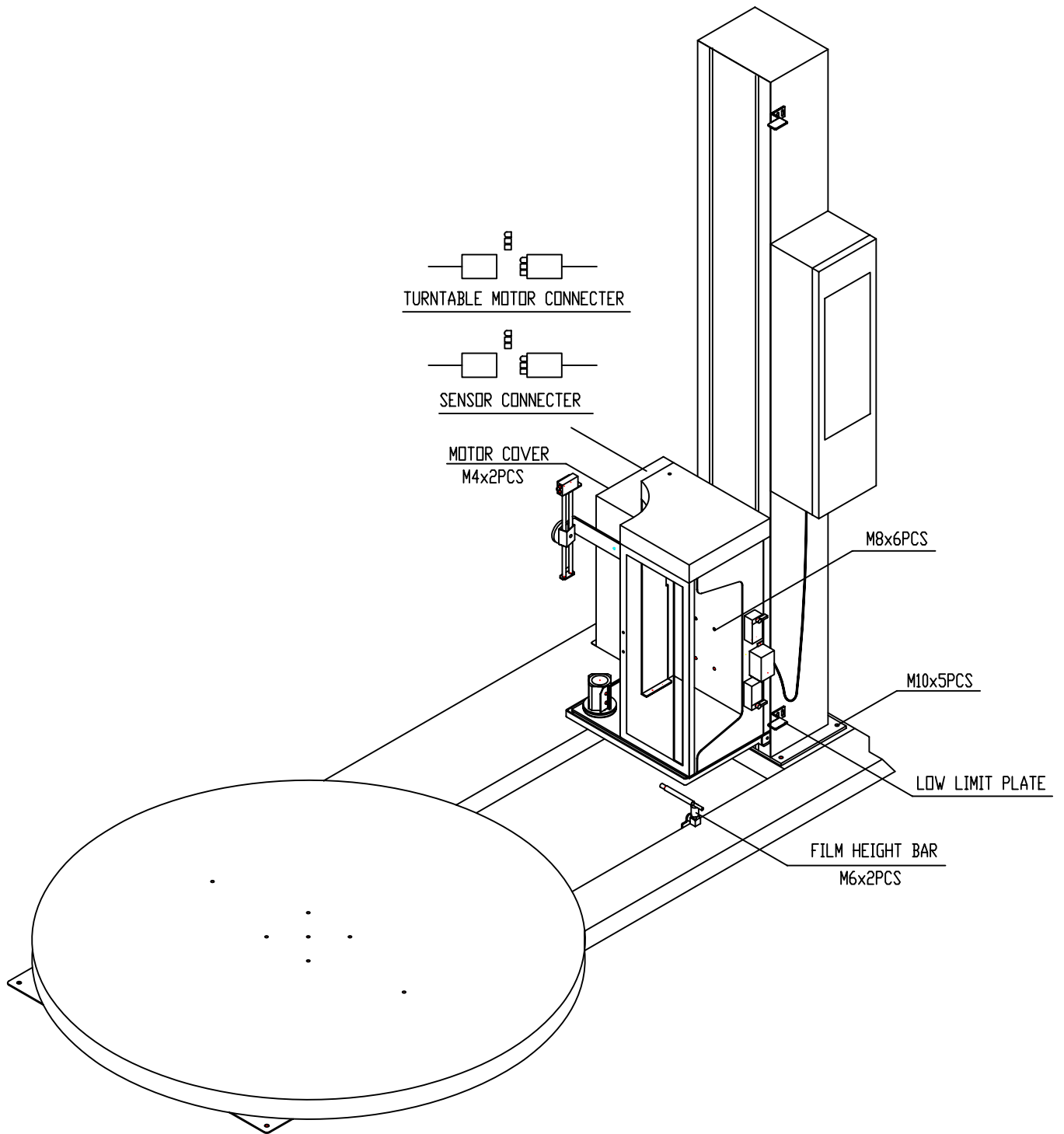
2.3 Machine description



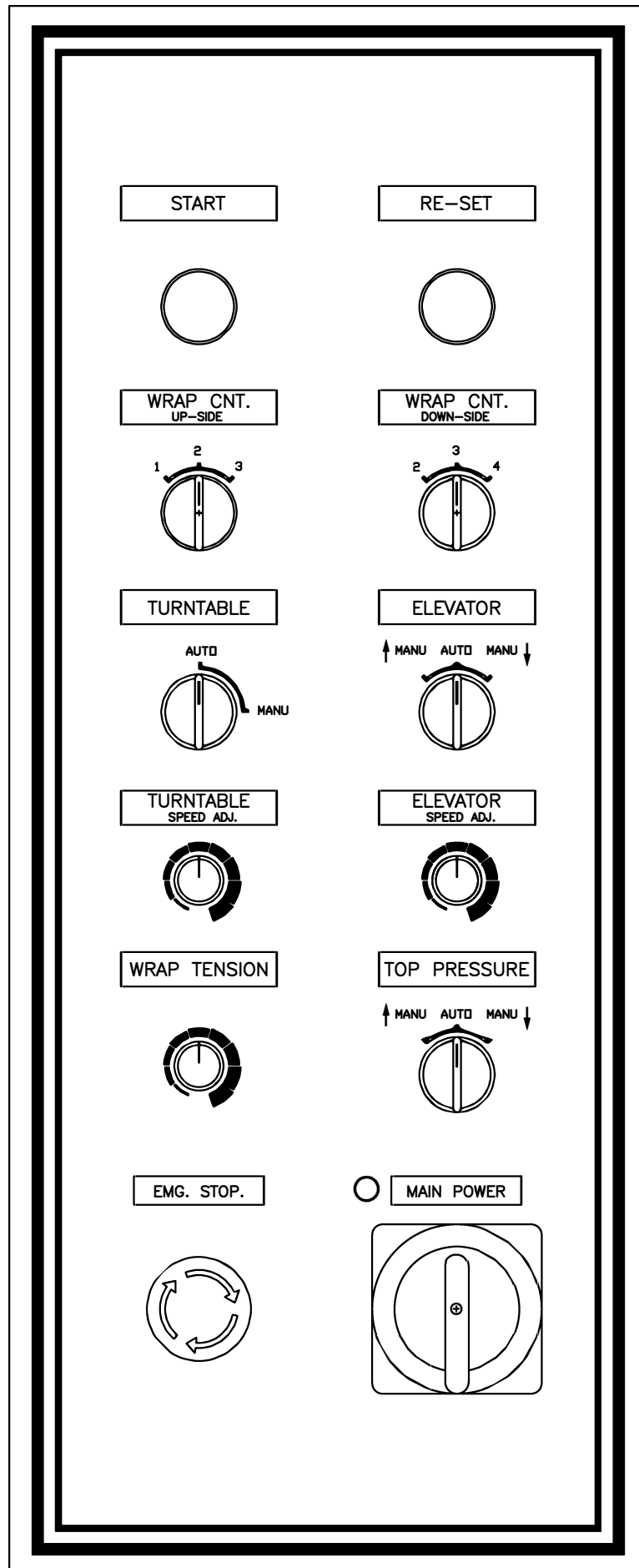
3. OPERATION DESCRIPTION

3.1 Installment

- 1) Apart all the wooden package. Avoid damaging the machine.
- 2) Move the machine to an installment position by fork lift.
- 3) Lift up the tower.
- 4) Fix and tighten the tower by M10 screws.
- 5) Fix and tighten the low limit plate by M6 screws.
- 6) Install the elevator unit on the tower driving seat and fix it by M8 screws.
- 7) Connect the turntable motor and sensor wire.
- 8) Install the motors cover.
- 9) Connect the power cable with the socket by a 110V/220V power.



3.2 OPERATION OF CONTROL PANEL



3.3 Operation description

OPERATION PANEL

1) LAMP POWER

As the main power switch is "ON" , the power lamp should be on too. While the lamp is on, it indicates the machine is ready to be running.

2) START

Press the button to get automatic or manual program running. As machine is set on "AUTO RUN" , please make sure TURNTABLE and ELEVATOR knob is set on "AUTO" position. Except for a special need. Please adjust 3 speed ADJ. knobs for ELEVATOR , TURNTABLE and WRAP TENSION to the following positions:

Note: When the machine is operating the automatic wrapping program, the lamp Will stay on till the wrapping is finished

.

When the machine is operating the manual wrapping program, the lamp would keep flashing till the wrapping is finished.

3) RE-SET

Press the button, all operation will be released and return to neutral situation.

4) WRAP CNT. (UP-SIDE)

Turn the knob to set cycles of wrap on the top-side of item from 1 to 3 .

5) WRAP CNT. (LOW-SIDE)

Turn the knob to set cycles of wrap on the low-side of item from 2 to 4 .

6) ELEVATOR KNOB

As machine is set on "AUTO RUN" , please set this knob on "AUTO" position and then press "START" button to wrap package.

As machine is set on "MANU RUN" , please set this knob on "MANU ↓" or "MANU ↑" position and then press "START" button to up or down elevator unit . If the machine is running, there is no need to press "START" button , just set the knob on "MANU ↓" or "MANU ↑" to get the elevator unit down or up. Please set the knob on "AUTO" position to stop the elevator unit from moving.

7) TURNTABLE KNOB

As machine is set on "AUTO RUN" , please set this knob on "AUTO RUN" too. Then press "START" button to wrap package. As machine is set on "MANU RUN" , please set this knob on "MANU" too. Then press "START" button to turn the turntable. If the machine is running, no need to press "START" button, just set the knob on "MANU" to get turntable turn , Please set the knob on "AUTO" position to stop the turntable.

8) TOP PRESSURE

This is an option knob for top pressure pad. Operators can choose either "Auto Run" or "Manual Run" to run the top pressure. There will be two situations when the machine is adjusted to "Auto Run" .

1. Please adjust the knob to "AUTO" to run the automatic wrapping with top pressure plate.
2. Or adjust the knob on "MANU ↑" to run the automatic wrapping Without top pressure plate.

In the mean time , please make sure the knobs for the

elevator and turntable are set on "AUTO" before pressing "START" button to finish the wrapping.

In "MANU RUN" , please set this knob on "MANU ↑" or "MANU ↓" position and press "START" button to up or down the pressure pad. If the machine is running, no need to press "START" button, just set the knob on "UP" or "DOWN"

to get the pressure pad up or down. Please set the knob on "AUTO" position to stop the pressure pad from moving .

9)ELEVATOR SPEED ADJ

Turn the knob clockwise to increase elevator unit goes up and down speed. Turn counterclockwise to decrease the speed. Turning the knob to Min. position can stop the elevator unit from moving. The speed adjust knob is available for both "AUTO" and "MANU" running . If there is no particular requirement, please set the knob on "⊙" . The overlapping area is 50% as the elevator is going up and down.

10)TURNTABLE SPEED ADJ.

Turn the knob clockwise to increase the speed of the turntable. Turn counterclockwise to decrease the speed . As the knob turns to Min. position, the turntable will be stopped from turning. The speed adjust is available for both "AUTO" and "MANU" running. If there is no particular requirement, please set the knob on "⊙" . Now , the turntable speed is 10RPM .

11)WRAP TENSION ADJ.

It is control knob for wrapping tension. Turning clockwise will increase the tension. While turning counterclockwise decrease the tension .

NOTE: 1) Turntable speed and wrap tension can be adjusted individually.

- 2) Wrapping tension on the package edge and side are same.
- 3) When wrap tension is settled, it can suits any kind size package no need adj. The wrap tension again.

12) EMG. STOP

Press the button to get emergency stop. Due to a good security consideration, the turntable will not be stopped instantly as the EMG. stop switch is pressed. As the turntable power is switched OFF, the brake will be released too. Turntable will be stopped in 10° ~ 70° . It depend on the weight load .

13) Main power

To switch ON and OFF the power .

14) FOOT SECURITY SWITCH BAR

The security bar is available when the machine is "ON" , no matter if it is on "AUTO" 、"MANU" or temporary "STOP" . When operators press this security bar, the main power will be cut immediately. The main power will be "ON" again until the security bar is released. If the machine was on "AUTO" or "MANU" at the previous stage, please push "START" button again to finish the wrapping.

ELEVATOR UNIT

PRE-STRETCH PERCENTAGE CHANGE

- 1) Release the adjust sprocket gear(C).
- 2) Release the chain.
- 3) Release the chain sprocket gear(A) by release the nut.
- 4) Change the needed chain sprocket gear(A).
- 5) Adjust the chain on suitable tightness by tighten the adjust sprocket gear(C).
- 6) Fix the chain sprocket gear(A) tighten the nut.

Chain sprocket gear rate:

Gear(A) 26T = 300% increase

Gear(A) 23T = 200% increase

Gear(A) 20T = 150% increase

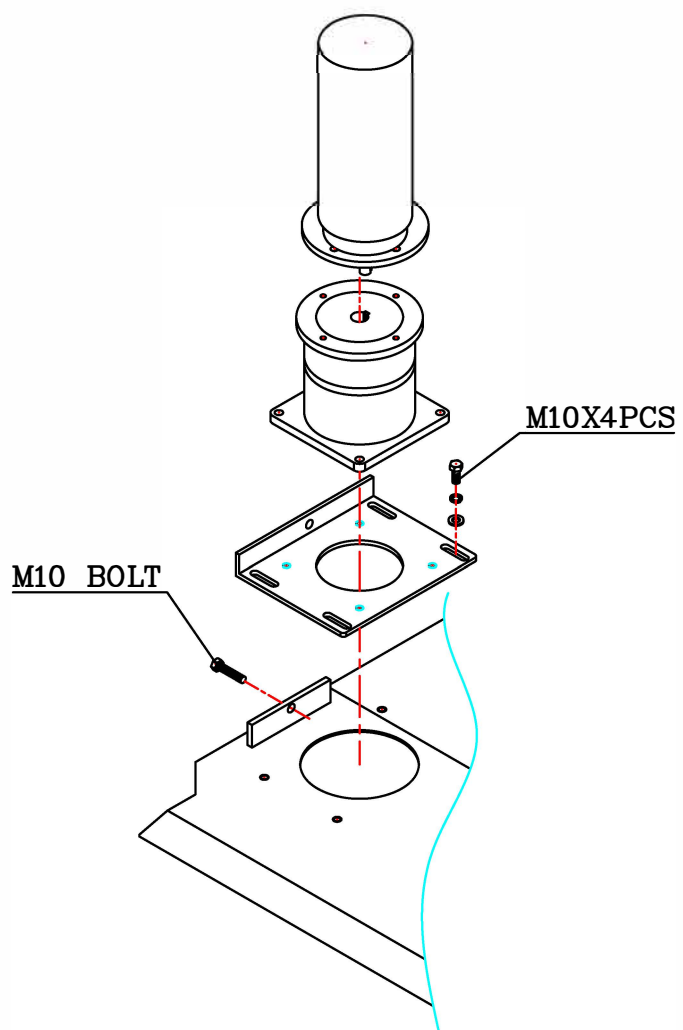


FIG.5-1

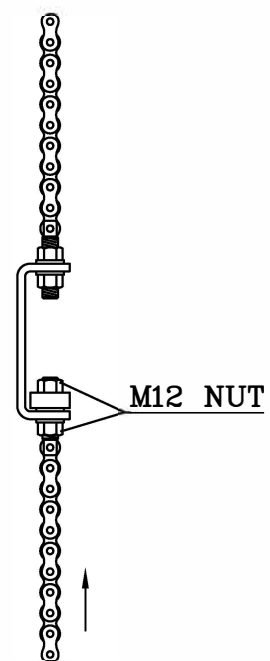


FIG.5-2

Illustration for film threading

Place the film on the "film fixing seat" . Refer to the below drawing, pull film out through IDLE ROLLER (C) and PRE-STRETCH shafts (A) & (B). After pulling film around PRE-STRETCH shafts (A) & (B) as the picture shown below, continue pulling the film clockwise around the dancing bar then passing the button of IDEL ROLLER (D) to the door of the elevator. Once the door is close, the film been pulled out of the film fixing unit can be operated to wrap the packages when the dancing bar is on the move and the pre-stretch motor is on.

NOTE : Installing film by either "1" or "2" depends on whether the film is inside or outside cling.

4. ELECTRIC

4.1 Electric capacity

1) Power consumption

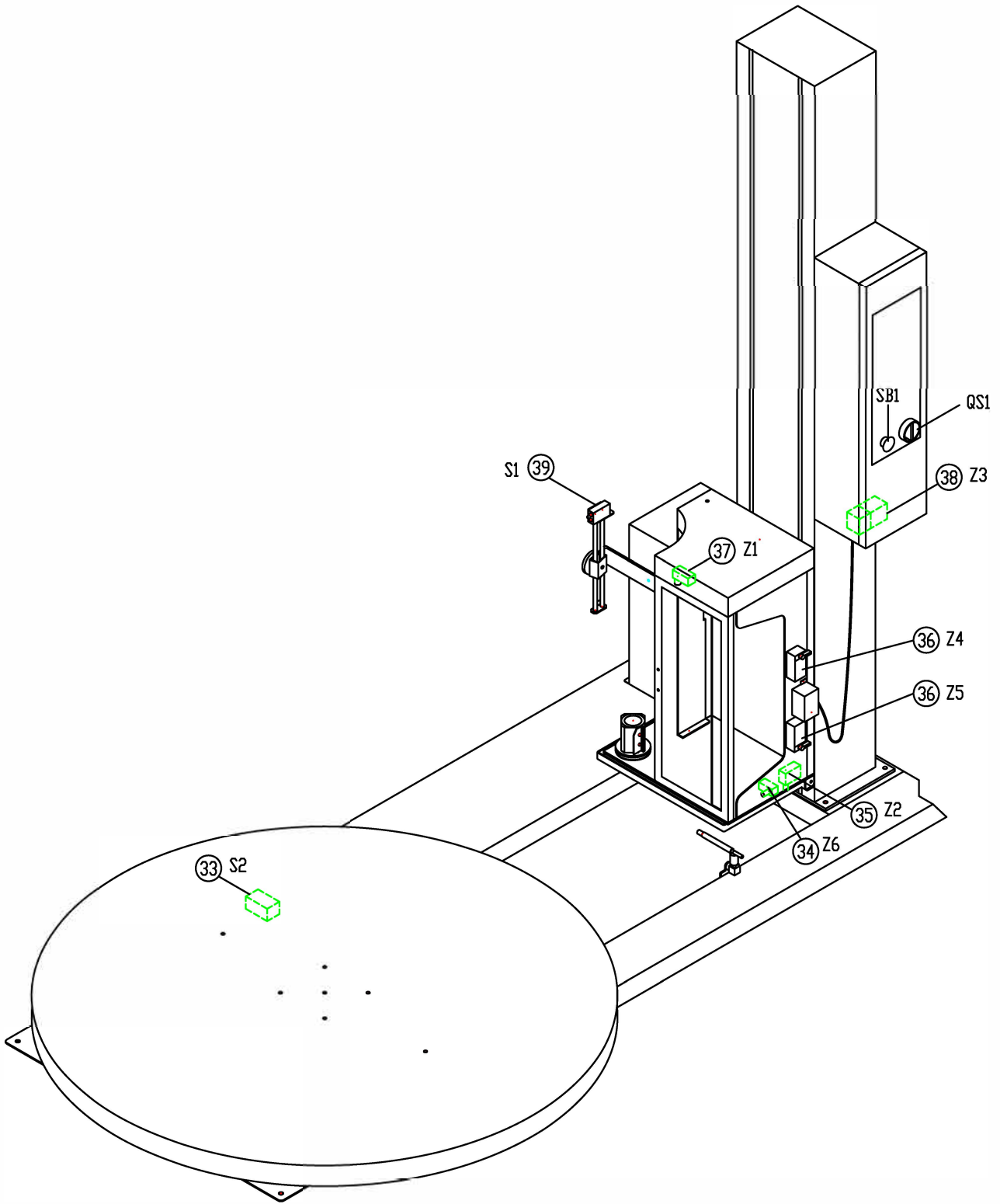
Turntable motor	0.185KVA	
Elevator motor	0.185KVA	
Pre-stretch motor	0.185KVA	
Control & wiring box	0.2KVA	
Machine power use	0.75KVA	
Power socket need	1KVA	

2) Power cable 1.25mm²

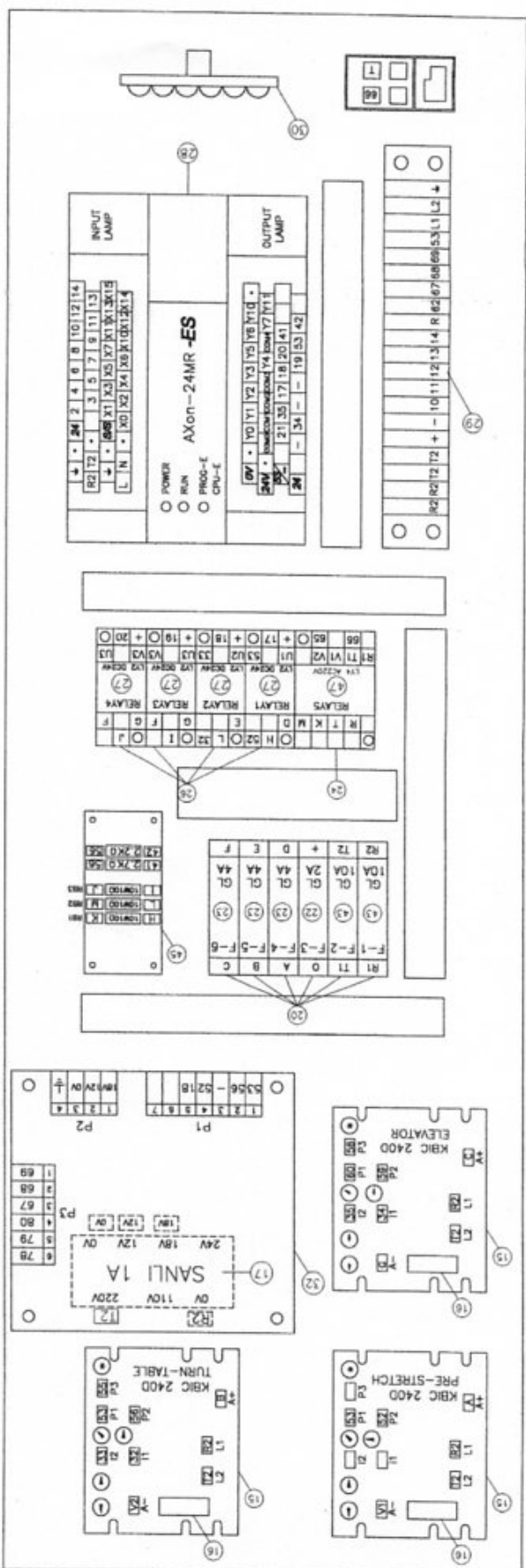
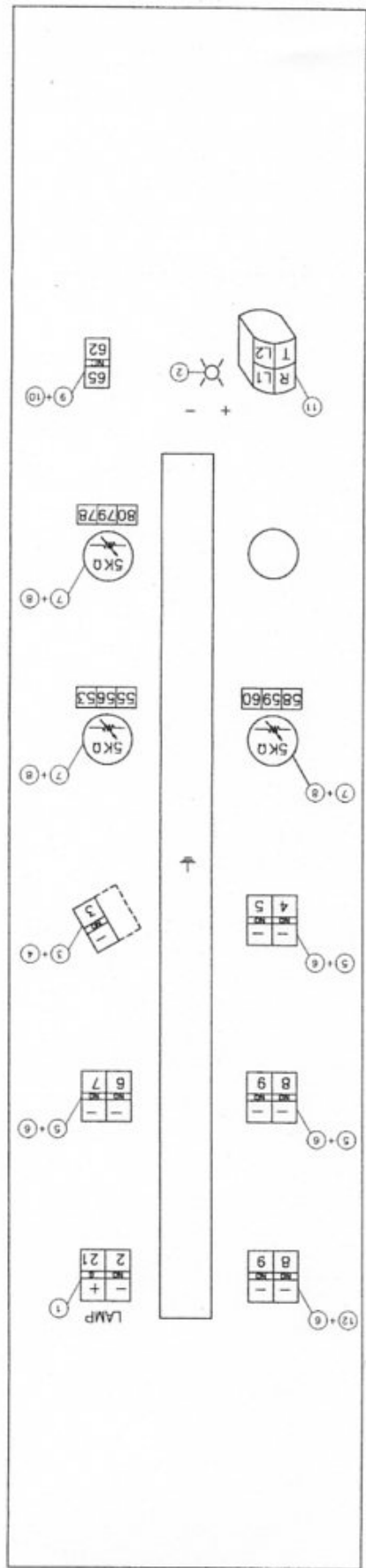
3) Machine in put AC 110V/220V 1-Phase

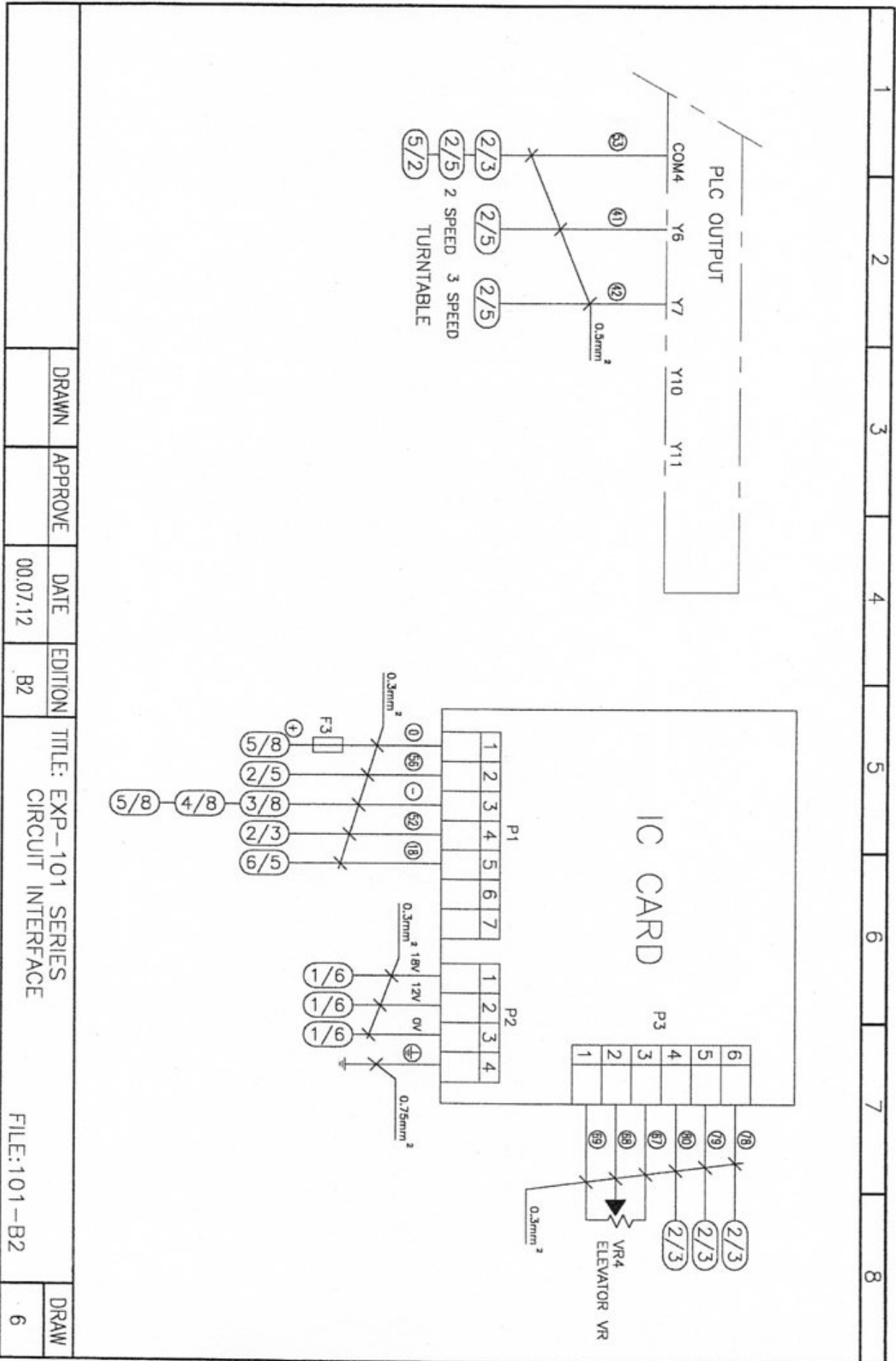
4.2 Electric diagram

Sensor/limit switch location



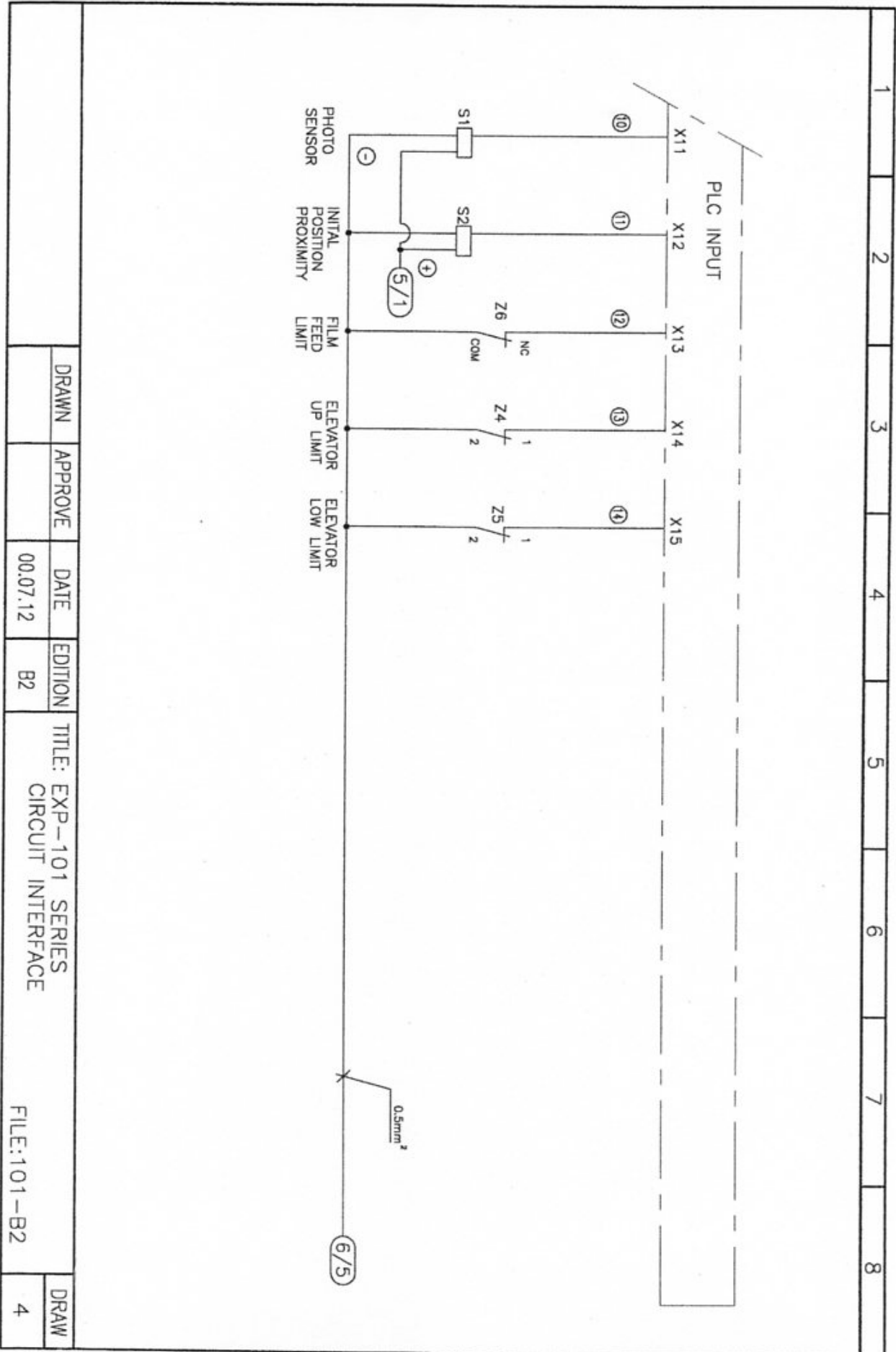
Connection Diagram(101-B1)
EXP-101



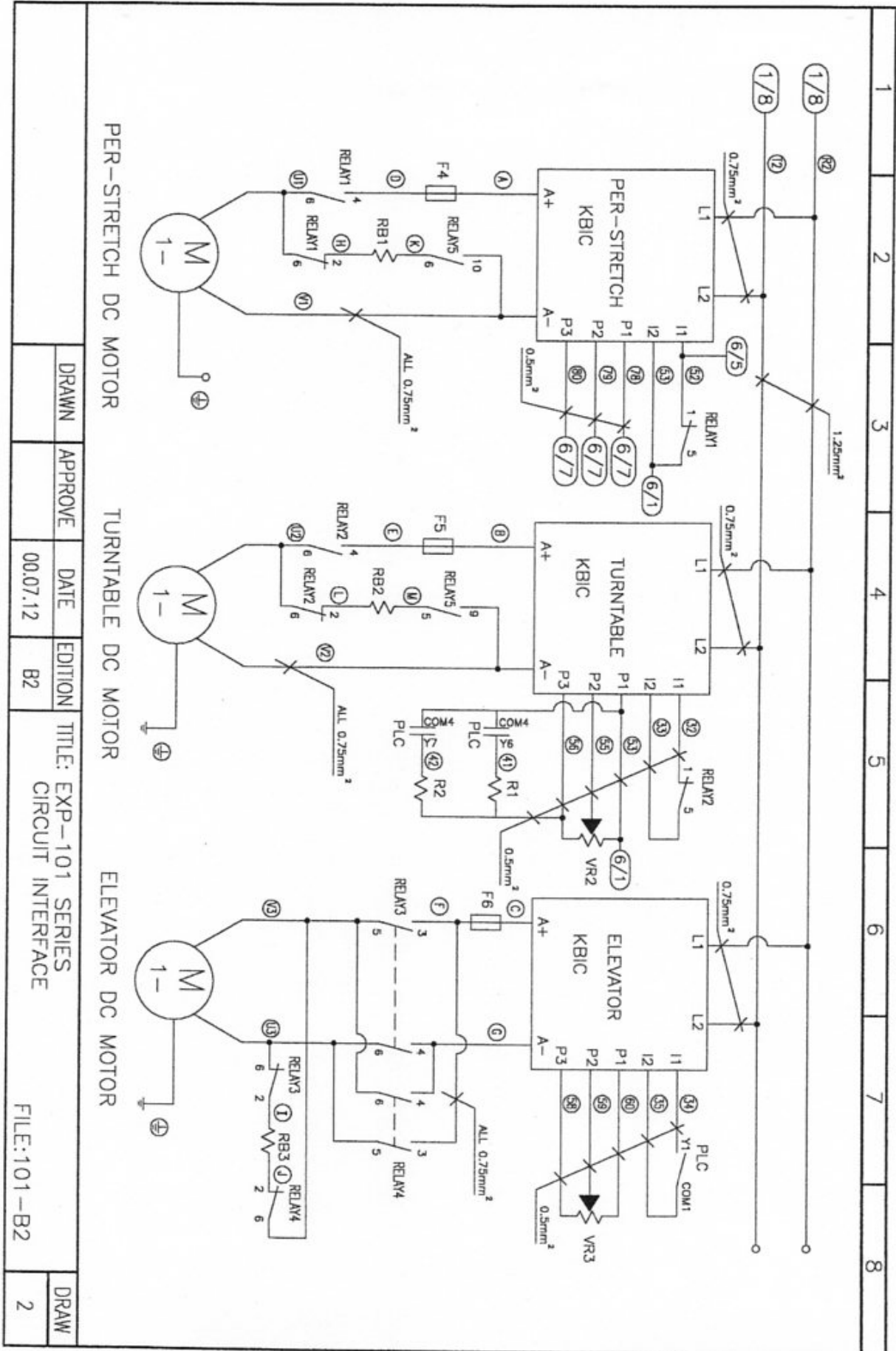


1 2 3 4 5 6 7 8

DRAWN	APPROVE	DATE	EDITION	TITLE: EXP-101 SERIES CIRCUIT INTERFACE	DRAW
		00.07.12	B2	FILE: 101-B2	6



DRAWN	APPROVE	DATE	EDITION	TITLE: EXP-101 SERIES CIRCUIT INTERFACE	DRAW
		00.07.12	B2	FILE: 101-B2	4



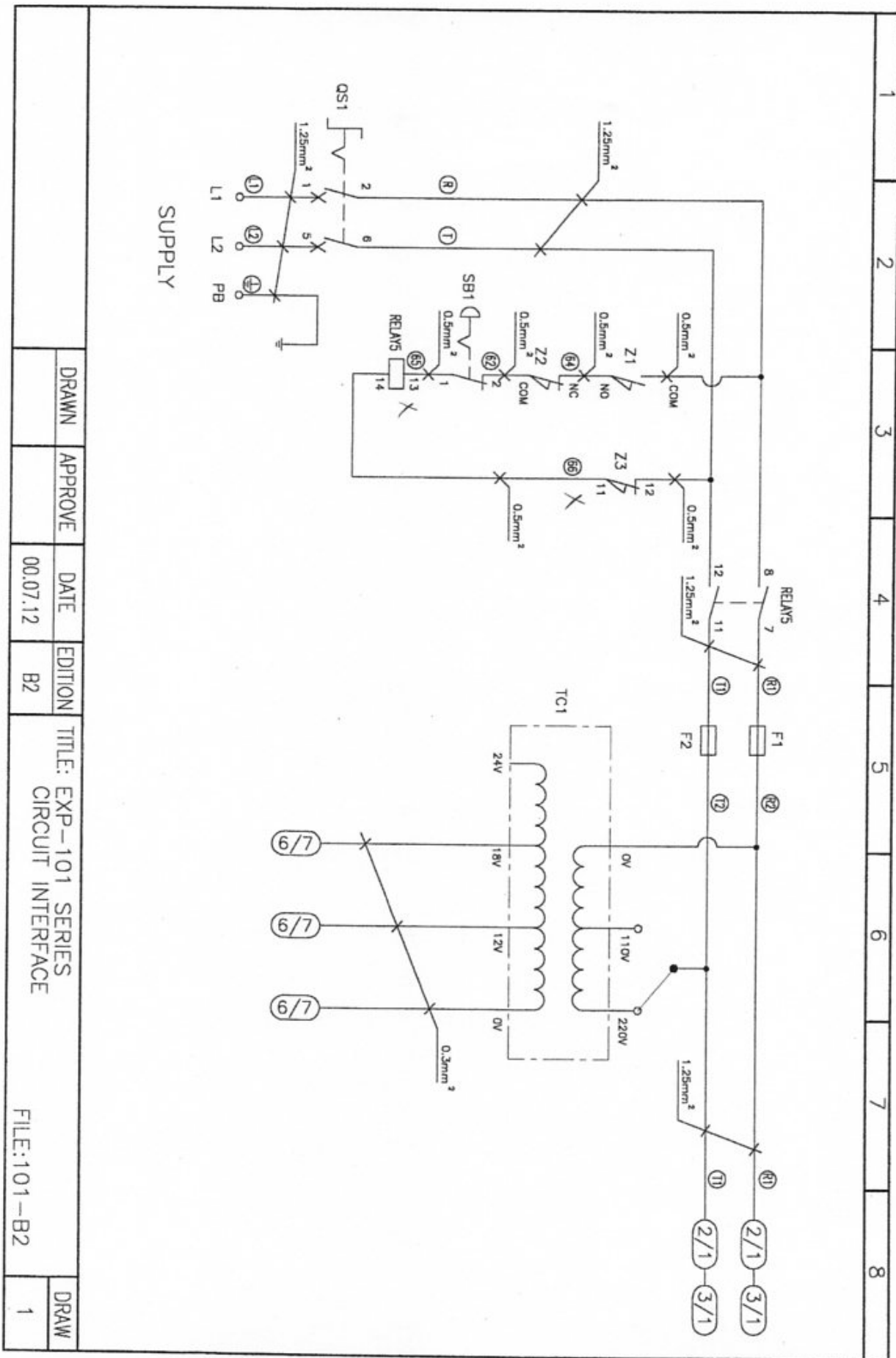
17-2

PER-STRETCH DC MOTOR

TURNABLE DC MOTOR

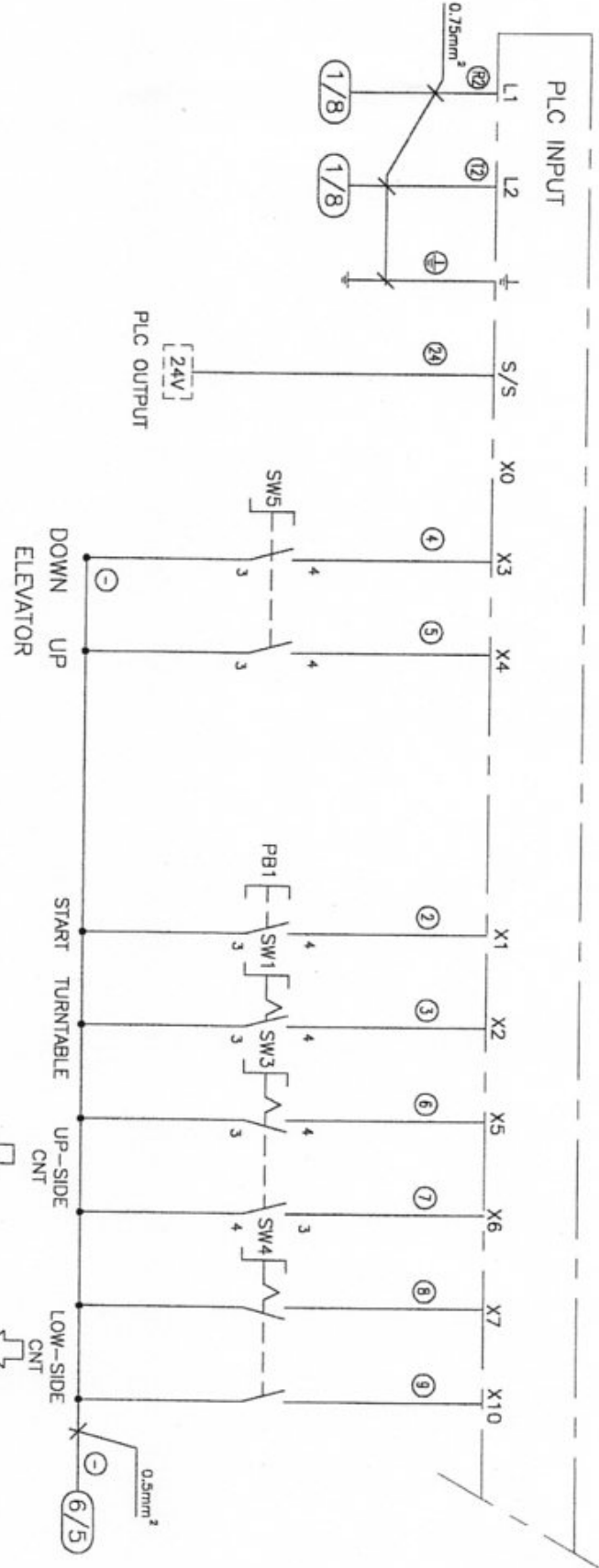
ELEVATOR DC MOTOR

DRAWN	APPROVE	DATE	EDITION	TITLE: EXP-101 SERIES	FILE:101-B2	DRAW
		00.07.12	B2	CIRCUIT INTERFACE		2



DRAWN	APPROVE	DATE	EDITION	TITLE: EXP-101 SERIES CIRCUIT INTERFACE	FILE:101-B2	DRAW
		00.07.12	B2			1

1 2 3 4 5 6 7 8

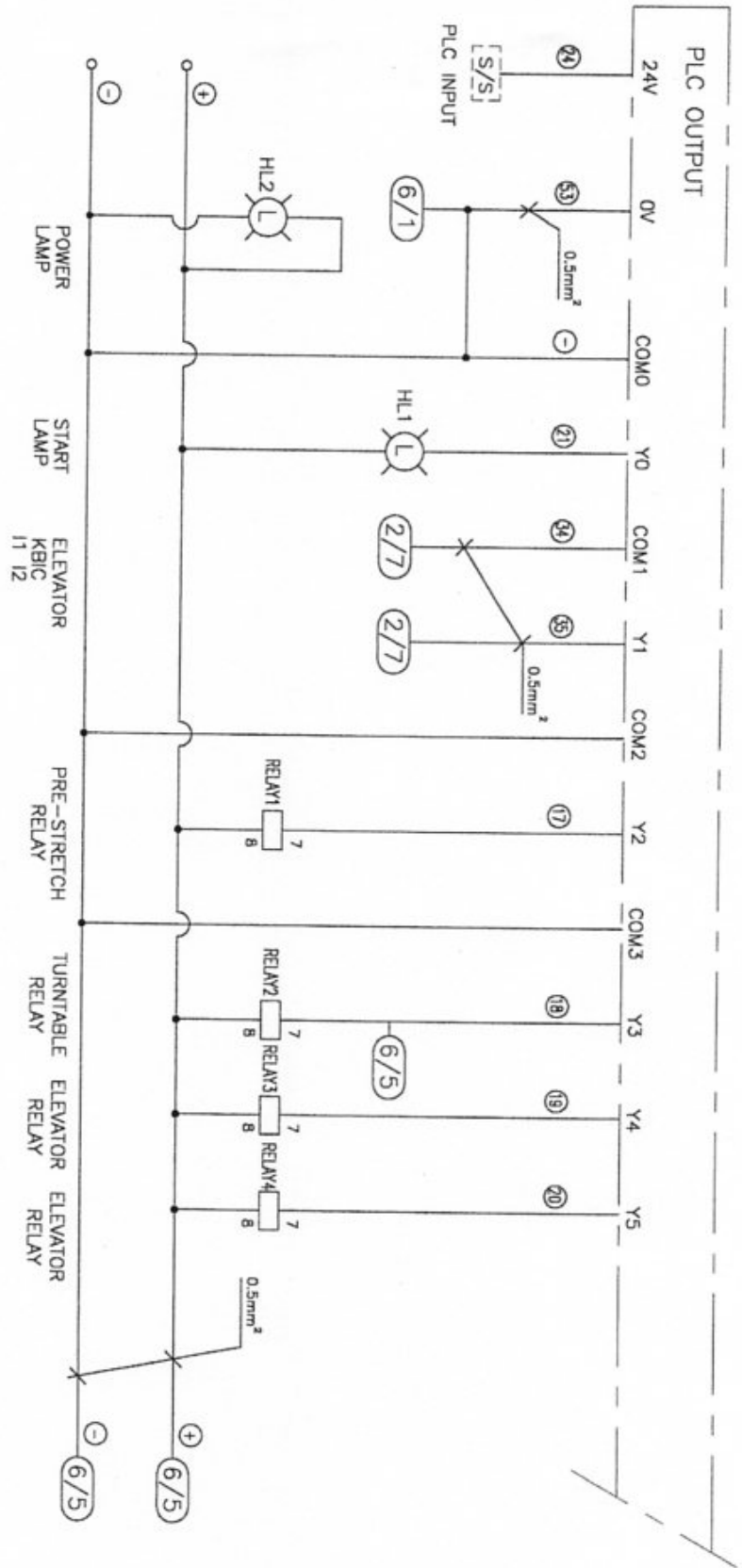


	X5	X6
CNT1	0	1
CNT2	0	0
CNT3	1	0

	X7	X10
CNT2	0	1
CNT3	0	0
CNT4	1	0
RESET	1	1

DRAWN	APPROVE	DATE	EDITION	TITLE: EXP-101 SERIES CIRCUIT INTERFACE	FILE: 101-B2	DRAW
		00.07.12	B2			3

1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---



DRAWN	APPROVE	DATE	EDITION	TITLE: EXP-101 SERIES CIRCUIT INTERFACE	FILE:101-B2	DRAW
		00.07.12	B2			5

ELECTRIC PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
1	7150BW02	AUTO RUN GREEN LAMP → SEAT	1
	7150CE24	→ LAMP	1
	7150BW01	→ COVER	1
2	71500001	POWER LAMP	1
3	7160BD01	SELECTOR SWITCHS	1
4	7158BZ01	BUTTOM SEAT CONTACTOR Nox1	1
5	7160BD02	SELECTOR SWITCHS	3
6	7158BZ03	BUTTOM SEAT CONTACTOR Nox2	4
7	71610001	KNOB (BLACK)	3
8	75510002	VARIOUS RESISTOR 5K	3
9	7155BC01	EMG. SWITCH	1
10	7158BZ02	BUTTOM SEAT CONTACTOR NCx1	1
11	7170CA01	MAIN POWER SWITCH	1
12	7155BA01	BUTTOM YELLOW	1
15	7570KD24	CONTROLLER (KBIC-240D)	3
16	75530002	RESISTOR 1/2HP →1.5M	3
	75530002	RESISTOR 1/2HP →1.8M	2
	75530004	RESISTOR 1HP →1.8M	1
17	72802011	TRANSFORMER	1
20	7250DF01	FUSE SEAT	6
22	72550201	FUSE 2A GL	1
23	72550401	FUSE 4A GL	3
24	7270BE03	RELAY SEAT LY4	1
25	7270RE03	RELAY LY4 AC220V	1
26	7270B301	RELAY SEAT LY2	4
27	7270R301	RELAY LY2 DC24V	4
28	73002401	PLC AXON-24MR-ES	1
29	7055TC03	TERMINAL POST 20P	1
30	70560601	TERMINAL BLOCKS TB6P	1

5. TROUBLE SHOOTING

5.1 General adjustment

- 1) Turntable belt adjust: Please see the illustration 5-1 and then loosen the motor seat fix screw (M10) 4 pcs. Turn the nut (M10) on the seat until get enough tension. Turn and tight the motor seat fix screw 4 pcs again.
- 2) Elevator unit driving chain adjust: Please see the illustration 5-2, and loosen the screw (M12) on the adjust seat. Adjust the chain fixed seat until get enough tension. Tight the screw (M12) again.
- 3) Film seat height adjust: Loosen the screw (M6) on the film seat and install a new suitable shaft. Then tight the M6 screw again.

KBIC Installation and Operation Instructions

***KBIC adjustment for PRE-STRETCH motor.**

*Install the correct Plug-in Horsepower Resistor according to input voltage and motor horsepower.

*Adjustment of KBIC must be done by technicians.

1. Connection points: (L1,L2) Input AC100-120V/AC200-240V. (A+,A-) Output DC. (P1,P2,P3) Speed adj. Knob on control panel. (I1,I2) Shortage connection points.

2. Adjustment set: **ACCEL** (acceleration start) ↓

MIN (minimum) ↙ **MAX** (maximum) *

IR (IR compensation) ← **CL** (current limit/torque) →

3. Due to the power pre-stretch motor revolving speed is controlled by the film feed controller card. So, when the KBIC card (for pre-stretch motor) is changed, only need to make sure "P2" "MIN" "IR" "CL" positions are same as following drawing.

***KBIC adjustment for TURNTABLE motor.**

*Install the correct Plug-in Horsepower Resistor according to input voltage and motor horsepower.

*Adjustment of KBIC must be done by technicians.

1. Connection points: (L1,L2) Input AC100–120V/AC200-240V.
(A+,A-) Output DC. (P1,P2,P3) Speed adj. Knob on control panel. (I1,I2) Shortage connection points.

2. Adjustment set: **ACCEL**(acceleration start) ←
MIN (minimum) ↙ **MAX** (maximum) *
IR (IR compensation) ← **CL** (current limit/torque) →

3. How to adjust:

A. Turn to TURNTABLE MENU.

B. Set TURNTABLE speed adj. to max.

C. Push START.

D. Adjust MAX. make the Turntable speed to 10 RPM/MIN.

(A+,A-) DC70V–90V

***KBIC adjustment for ELEVATOR motor.**

*Install the correct Plug-in Horsepower Resistor according to input voltage and motor horsepower.

*Adjustment of KBIC must be done by technicians.

1.Connection points : (L1,L2) Input AC110–120V/AC200-240V.
(A+,A-) Output DC. (P1,P2,P3) Speed adj. Knob on control panel. (I1,I2) Shortage connection points.

2.Adjustment set : **ACCEL**(acceleration start) ←
MIN(minimum) ↙ **MAX**(maximum) *
IR (IR compensation) ← **CL**(current limit/torque) →

3.How to adjust :

A. Turn to ELEVATOR to MANU↑ or MANU↓.

B. Set ELEVATOR speed to max.

C. Push START.

D. Adjust MAX. voltage DC75V-85V.

It take 22 seconds to elevate up, it's also true to elevate down.(2.2M tower)

It take 25 seconds to elevate up, it's also true to elevate down.(2.7M tower)

FILM FEED CONTROLLER CARD INSTALLATION AND OPERATION:

- * Switch off power .
- * Take off old controller card:
 - (A) Pull 3pcs connector off
 - (B) Take the old controller card apart by loosen 4pcs M3 screws
- * Install the new controller card:
 - (A) Install the new controller card and fix 4 pcs M3 screws tightly.
 - (B) Check all the switches position on the controller card as following drawins.

- * When the card is installed, please do the following test:
 - (A) Switch power "ON"
 - (B) Check the following lamps on the card
 - L4
 - L5 Three green lamps keep should lighted "ON"
 - L6
 - L2: The red lamp should follow the pre-stretch motor revolving speed. The speed more faster the red lamp more bright. The speed slower the bright less. If the pre-stretch motor stop, the red lamp will be extinguish too.

L1

The two yellow lamps are always extinguish when

L3

the pre-stretch motor is running. If they are lighted "ON" during the pre-stretch motor is running, mean is the film feed controller card is problem or the card adjust is wrong.

5.2 Trouble shooting

Machine trouble	Possible Problem	Solution
Machine can not work	<ol style="list-style-type: none"> 1.Fuse burn. 2.Door security s/w is blocked or broken. 3.PLC RUN lamp not ON. 4.Foot security is broken. 	<ol style="list-style-type: none"> 1.Change fuse. 2.Release or change security s/w. 3.Check PLC. 4.Release the security s/w.
Turntable can not turn	<ol style="list-style-type: none"> 1.Fuse burn. 2.Motor control broken 	<ol style="list-style-type: none"> 1.Change fuse 2.Change motor Control.
Turntable speed turn slowly and can't adjust.	<ol style="list-style-type: none"> 1.Motor control broken 2.Carton brush worn out. 3.Turntable belt loosen. 	<ol style="list-style-type: none"> 1.Change motor control. 2.Change the carton brush. 3.Tighten the belt.
Turntable can not always stopped in same position.	<ol style="list-style-type: none"> 1.Turntable proximity S/W no sense. 2.PLC connect error. 	<ol style="list-style-type: none"> 1.Check the proximity S/W sense. If it is no problem adjust the sensing plate. 2.Recurrent PLC connect.
Elevator unit can not move.	<ol style="list-style-type: none"> 1.Fuse burn. 2. Motor control broken. 	<ol style="list-style-type: none"> 1.Change fuse. 2. Change motor control.
As doing AUTO RUN the elevator unit goes up and over the package height can not stop.	<ol style="list-style-type: none"> 1.Photo sensor get sense from another material except package. 2.Photo sensor get sensor get sense from another light source. 	<ol style="list-style-type: none"> 1.Move out the Material 2.Avoid the light source.
As doing AUTO RUN but elevator unit can not goes up.	<ol style="list-style-type: none"> 1.Photo sensor broken 2.Photo sensor can not sense a black color package. 	<ol style="list-style-type: none"> 1.Change photo sensor. 2.Avoid a black color package or use manual operation.

Pre-stretch motor can't work	1.Fuse burn 2.Motor control broken 3.Motor broken.	1.Change fuse. 2.Change motor control. 3.Change motor.
Pre-stretch percentage isn't enough.	1.Too much glue on the pre-stretch roller.	1.Clean the pre-stretch roller by cleaner
Film easy break	1.Foregn object or damage surface on the pre-stretch roller.	1.Rub the place gently by rubber.

6. PART LIST

6.1 Seat

PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
1	74600106	MOTOR VP3310D 1/4HP →1.5M	1
	74600202	MOTOR VP3330D 1/2HP →1.8M	1
2	10110820	SCREW M8X20L & W.	4
3	10111020	SCREW M10x20L & S.W. & W.	4
4	32902002	SPEED REDUCER 1/4HP →1.5M	1
	32904002	SPEED REDUCER 1/2HP →1.8M	1
5	10925200	KEY 5X20L	1
6	10111025	SCREW M10x25L & S.W. & W.	4
7	PB100200	MOTOR ADJUST SEAT →1.5M	1
	PB100210	MOTOR ADJUST SEAT →1.8M	1
8	PA101400	MOTOR PULLEY 4"22 →1.5M	1
	PA101410	MOTOR PULLEY 4"28 →1.8M	1
9	10180001	SCREW 5/16"x16L	2
10	10111070	SCREW M10x70L	1
11	10100612	SCREW M6x12L & W.	1
12	PD100600	MOTOR BOX FIX PLATE	1
13	PD101000	PIN	2
14	11301000	RING STW-10	2
15	PB100100	TURNTABLE SEAT 1.5M	1
	PB10011A	TURNTABLE SEAT 1.8M	1
16	11301700	RING STW-17	48
17	30302030	BEARING 6203ZZ →1.5M	24
	30302030	BEARING 6203ZZ →1.8M	28
18	PA101000	SUPPORTING PLASTIC WHEEL →1.5M	12
	PA101000	SUPPORTING PLASTIC WHEEL →1.8M	14
19	PA100900	SUPPORTING PLASTIC WHEEL SHAFT →1.5M	12
	PA100900	SUPPORTING PLASTIC WHEEL SHAFT →1.8M	14
20	11301700	RING STW-17	1
21	30302030	BEARING 6203ZZ	2
22	PA101100	BELT LOCK PULLEY	1
23	PA101200	BELT LOCK PULLEY SHAFT	1
24	10100616	SCREW M6x16L	3
25	10130325	SCREW M3x25L & W.	2
26	7355N102	PROXIMITY SWITCH PS-05N-3M	1
27	PA101300	PROXIMITY SWITCH FIX SEAT	1
28	10130420	SCREW M4x20L	2
29	10300500	NUT M5	6

S.W: SPRING WASHER

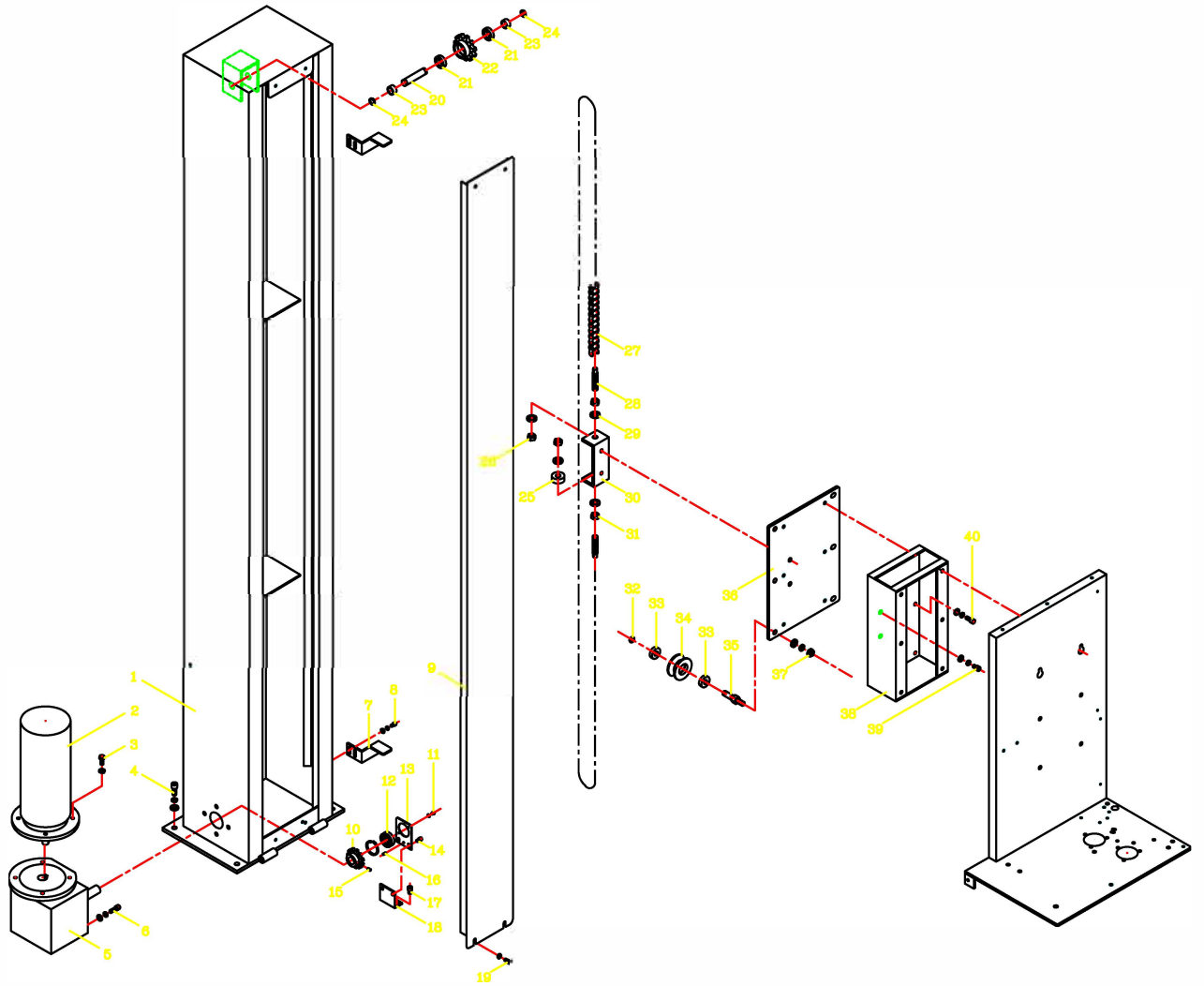
W: WASHER

PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
30	2010B172	BELT B-172 →1.5M	1
	2010B183	BELT B-183 →1.8M	1
31	10140825	SCREW M8x25L	4
32	PA100200	TURNTABLE PLATE 1.5M	1
	PA100210	TURNTABLE PLATE 1.8M	1
33	10100820	SCREW M8x20L	4
34	PA100700	WHEEL 22"	1
35	PA100600	LOCATING PLATE	2
36	10130510	SCREW M5x10L & W.	4
37	PA100800	PULLEY FIXING PLATE	1
38	PD100800	BELT PULLEY SEAT RING	1
39	11314200	RING RTW-42	1
40	PD100700	BELT PULLEY SHAFT	1
41	30300040	BEARING 6004ZZ	2
42	11302000	RING STW-20	1
43	PD100900	BELT PULLEY BEARING SEAT	1
44	10101016	SCREW M10x16L	4
45	10130408	SCREW M4x8L & W.	4
46	PD100500	MOTOR COVER →1.5M	1
	PD10051A	MOTOR COVER →1.8M	1
47	PD100400	TURNTABLE MOTOR BOX 1.5M	1
	PD100410	TURNTABLE MOTOR BOX 1.8M	1
48	10130408	SCREW M4x8L & W.	2
49	PB100500	FILM ADJUST SEAT	1
50	10100616	SCREW M6x16L & S.W. & W.	2
51	10180508	SCREW M5*8L	1
52	PB100600	ARM SET	1

S.W: SPRING WASHER W: WASHER

6.2 Tower



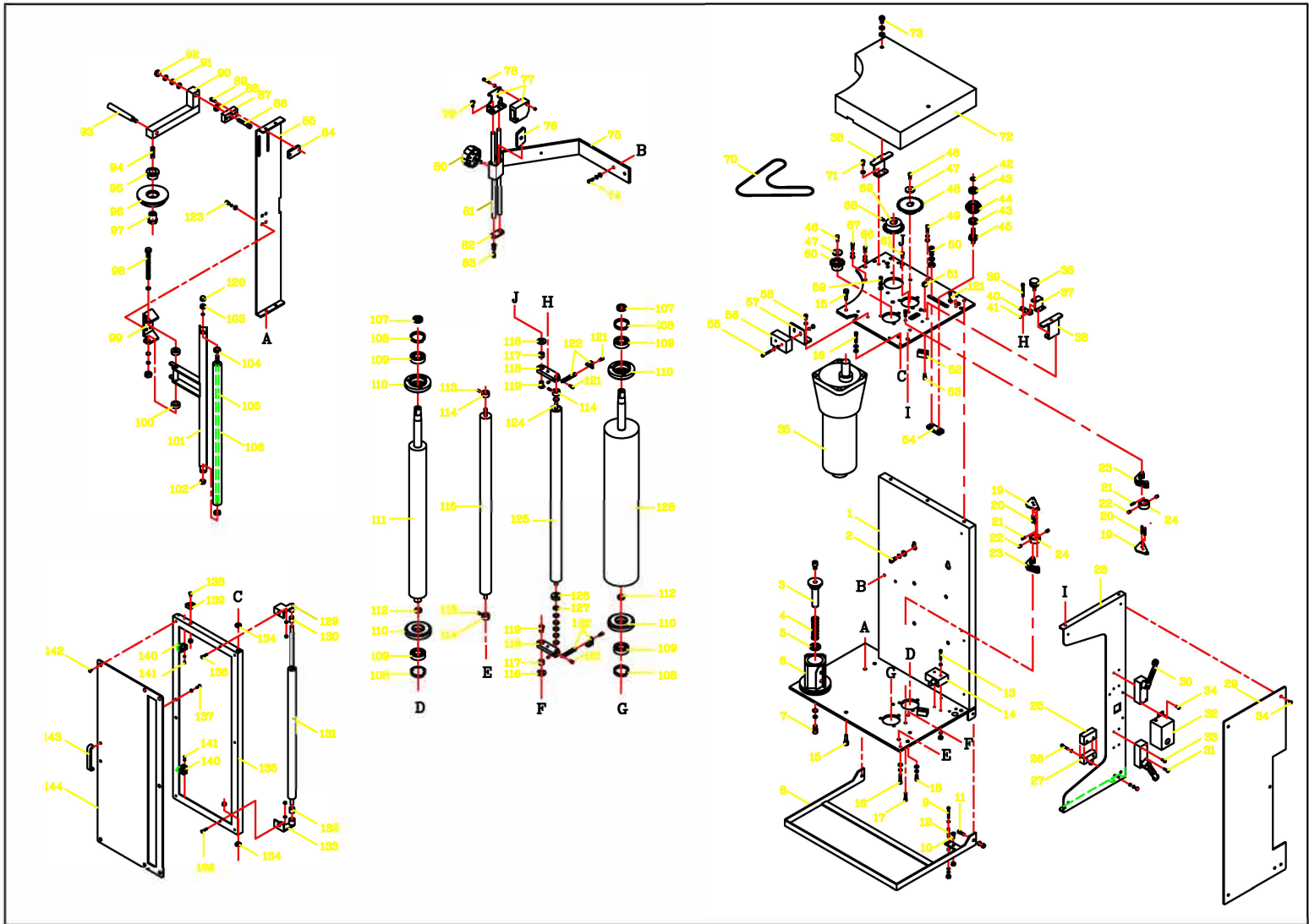
PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
1	PB20010A	TOWER 2.1M	1
	PB20011A	TOWER 2.6M	1
2	74600107	ELEVATOR UNIT MOTOR VP3310D	1
3	10110820	SCREW M8x20L & S.W.	4
4	10101025	SCREW M10x25L & S.W. & W.	5
5	32802004	ELEVATOR UNIT SPEED REDUCER VTM-40	1
6	10100825	SCREW M8x25L & S.W. & W.	4
7	PB200600	SENSING PLATE	2
8	10100616	SCREW M6x16L & S.W. & W.	4
9	PB20020A	CHAIN WHEEL COVER 2.1M	1
	PB20021A	CHAIN WHEEL COVER 2.6M	1
10	PB200500	UP & DOWN CHAIN WHEEL (LOWER) 11 TEETH	1
11	10130406	SCREW M4x6L & W.	2
12	3030202N	BEARING 6202-2NR	1
13	PD204900	SPEED REDUCER BEARING SEAT	1
14	10100610	SCREW M6x10L & W.	2
15	10180608	SCREW M6x8L	1
16	10720408	PIN \varnothing 4X8	1
17	10100812	SCREW M8x12L	2
18	PD205000	BEARING ADJUST SEAT	1
19	10100612	SCREW M6x12L & W.	4
20	PD200300	UPPER CHAIN WHEEL SHAFT	1
21	30300020	BEARING 6002ZZ	2
22	PD200400	UPPER CHAIN WHEEL	1
23	PD201300	RING	2
24	11301500	RING STW-15	2
25	PD205500	ADJUST BAR WASHER	1
26	10331200	NUT M12	1
	3240S401	CHAIN→2.1M	1
	3240S402	CHAIN→2.6M	1
28	PA312500	ELEVATOR UNIT CHAIN SCREW SHAFT	2
29	10501200	WASHER M12	4
30	PD200800	CHAIN ADJUST SEAT	1
31	10301200	NUT M12	3
32	11301200	RING STW-12	6
33	30300010	BEARING 6001ZZ	12

S.W: SPRING WASHER

W: WASHER

6.3 Elevator



PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
1	PB20200A	ELEVATOR UNIT SEAT (OUTER)	1
2	10100820	SCREW M8x20L & S.W. & W.	6
3	PB207100	FILM SEAT SHAFT	1
4	PM302400	SPRING	1
5	30361730	BEARING NTB/AS1730	1
6	PM30050A	FILM FIX SEAT	1
	PM302300	WASHER	1
7	10101020	SCREW M10x20L & S.W. & W.	1
8	PB203910	PEDAL	1
9	10130435	SCREW M4x35L	1
10	10140616	SCREW M6X16	1
11	10100616	SCREW M6x16L & S.W. & W.	2
12	PA202100	SPRING	1
13	10130435	SCREW M4x35L & S.W. & W.	2
14	7350TZ02	LIMIT SWITCH TZ-7110	1
15	PB204500	PIN	2
16	10100616	SCREW M6x16L & S.W. & W.	2
17	10100625	SCREW M6x25L	4
18	10100616	SCREW M6x16L & S.W. & W.	4
19	PB206200	PLATE	2
20	10720418	PIN Φ 4x18L	4
21	PB206400	SPRING	2
22	10180610	SCREW M6x10L	4
23	PB206100	BLOCK	10
24	PB206300	RING	2
25	7351TM01	WIRE PROTECTOR	1
26	10130435	SCREW M4x35L & S.W. & W.	2
27	7350TM01	LIMIT SWITCH TM-1307	1
28	PB203000	RIGHT PLATE	1
29	PB203100	RIGHT ACRYLIC PLATE	1
30	7350TZ04	LIMIT SWITCH TZ-8108	2
31	10130425	SCREW M4x25L	4
32	PB203200	BOX	1
33	10130412	SCREW M4X12L	4

S.W: SPRING WASHER W: WASHER

PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
34	10190408	SCREW M4x8L	6
35	74600105	PRE-STRETCH MOTOR GPP7453	1
36	75510002	VARIOUS RESISTOR 5K	1
37	PB206000	RESISTOR FIX SEAT	1
38	PB204700	PLATE	2
39	10100540	SCREW M5x40L	1
40	PB205900	ARM	1
41	10180406	SCREW M4x6L	1
42	11300900	RING STW-9	1
43	30306090	BEARING 609ZZ	2
44	PA316500	CHAIN GEAR 13 TEETH	1
45	PA316400	GEAR SHAFT	1
46	10100612	SCREW M6x12L	2
47	PA312600	WASHER	2
48	PA311200	CHAIN GEAR 23 TEETH 200%	1
	PA3111A0	CHAIN GEAR 20 TEETH 150%	1
	PA316600	CHAIN GEAR 26 TEETH 300%	1
49	10100620	SCREW M6x20L & S.W. & W.	3
50	10101020	SCREW M10X20L & S.W. & W.	1
51	10300600	NUT M6	4
52	PB202900	BLOCK	2
53	10100620	SCREW M6x20L	4
54	PB205200	FIX PIECE	1
55	10130435	SCREW M4x35L & S.W. & W.	2
56	7350TZ03	LIMIT SWITCH TZ-7100	1
57	PB204600	LIMIT PLATE	1
58	10100612	SCREW M6x12L & W.	2
59	10100616	SCREW M6X16L & S.W. & W.	12
60	PA311000	CHAIN GEAR 12 TEETH	1
61	10100616	SCREW M6x16L & W.	2
62	10300600	NUT M6	1
63	10300600	NUT M6	1
64	10300600	NUT M6	2
65	10300400	NUT M4	2
66	10100616	SCREW M6X16L	4

S.W: SPRING WASHER

W: WASHER

PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
67	10100001	SCREW 1/4"X3/4"L	4
68	10180610	SCREW M6x10L	2
69	PA311500	CHAIN GEAR 18 TEETH	1
70	3240S351	CHAIN	1
71	10100612	SCREW M6x12L & W.	4
72	PB20480A	COVER	1
73	10200616	SCREW M6x16L & S.W. & W.	2
74	10100620	SCREW M6x20L & S.W. & W.	2
75	PB203300	PHOTO SENSOR ADJUST SEAT	1
76	PD203100	FIX PIECE	1
77	73602M02	PHOTO SENSOR A3R-2MX	1
78	10130425	SCREW M4x25L & W & NUT	2
79	10140612	SCREW M6x12L	2
80	91250001	HANDLE	1
81	PD203200	PHOTO ADJUST BAR	2
82	PD203300	CONNECTING PLATE	1
83	10100612	SCREW M6x12L & S.W. & W.	2
84	PB203600	FIX PIECE	1
85	PB20340A	LEFT PLATE	1
86	10100840	SCREW M8x40L	1
87	PB203500	FILM ADJUST SEAT	1
88	PB203700	FILM HANDLE RING	1
89	10100616	SCREW M6x16L	2
90	PB203800	FILM HANDLE	1
91	11120802	DISC SPRING WASHER 8x16x1t	3
92	10330800	NUT M8	1
93	91280001	STRAIGHT HANDLES 5/16"	1
94	10181040	SCREW M10x40L	1
95	PA316200	FILM SEAT WASHER	1
96	PA316100	FILM SEAT (UPPER)	1
97	PA316300	FILM SEAT SHAFT	1
98	101110A0	SCREW M10x100L & S.W. & W.	1
99	PB205300	ARM SEAT	1
100	30371100	BEARING 51100	2
101	PB20540C	ARM	1

S.W:SPRING WASHER W:WASHER

PARTS LIST FOR EXP-101

KEY NO	PART NO.	DESCRIPTION	Q'TY
102	10330800	NUT M8 & W.	1
103	10300800	NUT M8 & W.	1
104	10331000	NUT M10	1
105	10101020	SCREW M10x20L	1
106	PB20550A	ROLLER SET	1
107	PA311400	AXLE RING	2
108	11314200	RING RTW-42	4
109	30300040	BEARING 6004ZZ	4
110	PA310900	BEARING BLOCK	4
111	PB202300	PRE-STRETCH SHAFT (SMALLER)	1
112	11302000	RING STW-20	2
113	10180506	SCREW M5x6L	3
114	PB202100	RING	3
115	PB20220A	IDLER ROLLER (LONG)	1
116	PB202500	RING	2
117	3034HK02	BEARING HK1010	2
118	PB202600	SWINGING BAR	2
119	PB202700	SHAFT	2
120	10320800	NUT M8	1
121	10100512	SCREW M5x12L & W.	6
122	PB202800	SPRING	2
123	10100612	SCREW M6X12L & S.W. & W.	4
124	PB20440A	ELEVATOR UNIT UPPER SEAT	1
125	PB206500	IDLER ROLLER SET	1
126	10300400	NUT M4	4
127	PB204000	SECURITY DOOR FRAME	1
128	PB202400	PRE-STRETCH SHAFT (BIGGER)	1
129	PB206800	UP IDLER ROLLER SEAT	1
130	3034HK03	BEARING HK0810	1
131	PB206900	IDLER ROLLER SET	1
132	3034FC08	BEARING FC8	1
133	PB206700	LOW IDLER ROLLER SEAT	1
134	PB204100	RING	2
135	PB204200	ACRYLIC	1
136	10150420	SCREW M4x20L & W.	2

S.W: SPRING WASHER

W: WASHER

6.4 Control box

