



**TM-3000S**

**Vacuum Tumbling Machine**

# **Operation Manual**

Version 6.9.1

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# TABLE OF CONTENTS

<b>1. INSTALLATION .....</b>	<b>1</b>
<b>2. MAINTENANCE .....</b>	<b>1</b>
<b>3. FUNCTIONS OPERATION.....</b>	<b>1</b>
<b>4. OPERATION.....</b>	<b>2</b>
<b>5. MACHINE SPECIFICATION....</b>	<b>3</b>
<b>6. MACHINE OPERATION EXPLAIN.....</b>	<b>4</b>
<b>7. FABRICATION .....</b>	<b>.5</b>
<b>7.1 DRUM BODY.....</b>	<b>6</b>
<b>7.2 MACHINE CASE.....</b>	<b>8</b>
<b>7.3 OPERATOR BOX .....</b>	<b>11</b>
<b>7.4 ELECTRICAL DIAGRAM .....</b>	<b>13</b>

# 1. INSTALLATION

Please check the electric power listed on the vacuum pump and install the vacuum pump correctly,  
ground line must on the floor.

# 2. MAINTENANCE

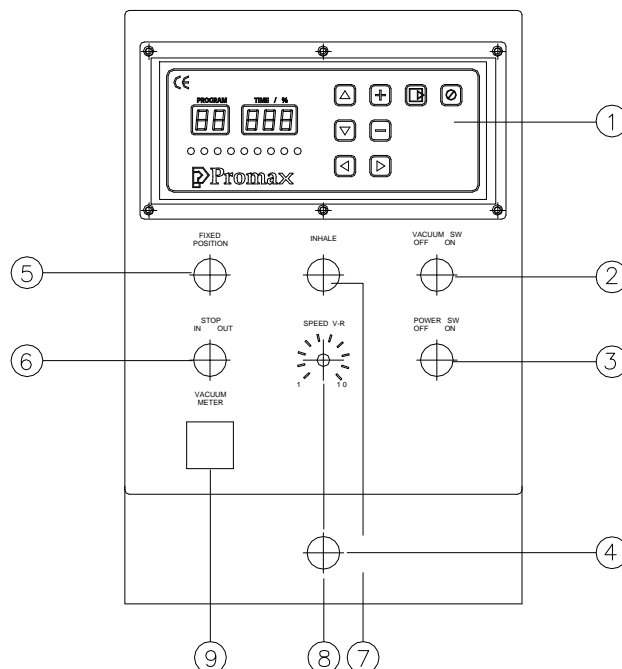
- A. To ensure vacuum pump works smoothly suggest change the vacuum oil every 500 working hours or every a half year.
- B. Check water filter bottle everyday, as soon as the water over a half of the bottle please cleans it.

# 3. FUNCTIONS AND OPERATIONS

## 3.1 (For PV-03)

- 1 LED control panel
- 2 Vacuum switch
- 3 Power switch
- 4 Emergency stop
- 5 Fixed position
- 6 In/Stop/Out switch
- 7 Inhale
- 8 Speed V-R
- 9 Vacuum meter

Cleaning. The tumbler inside must be cleaned everyday after working hours.



# 4.OPERATION

## PV-03 CONTROL UNIT MANUAL



1. When power on, STB LED light will be on. Wait for 2 seconds; you will be in the operation display.
2. Press “SHIFT” button , you can choose “Mix Time”, “Rest Time”, and “Cycle” , but you just can read “Total Time”, no data input necessary. Because “Total Time=Cycle x (Mix Time + Rest Time).”
3. “Mix Time” and “Rest Time” can input with Hour and Min. If the numbers on the display without “Dot” (On the lower right hand side of display), this means you input the “MINUTES”. If you want to put HOUR, please press the “HR/MIN” button to switch between HOUR and MINUTES display. When the numbers on the display with “Dot”, this means you are inputting the HOUR. °

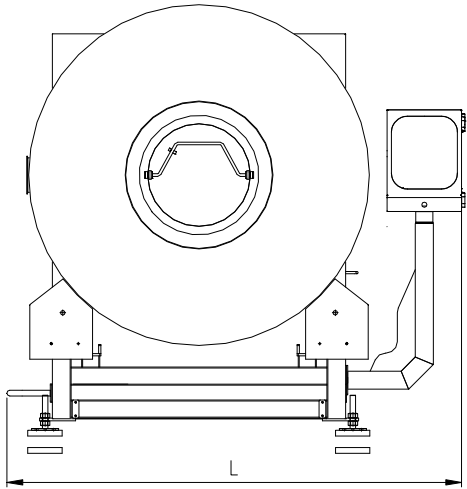
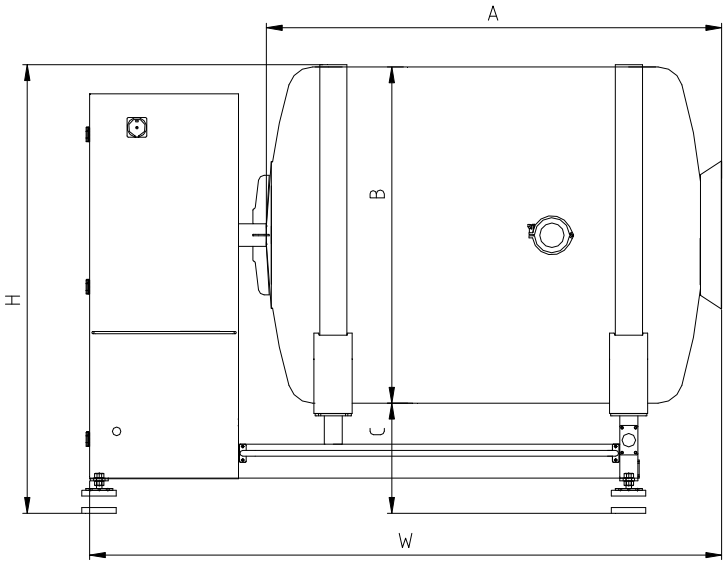
For example:

In program#1, you plan to input 1hr and 20 min mixing time in the control panel.The way to do:  
Shift the Led light on the mixing time  
Make the display with “Dot” on the lower right hand side of display. This means you are in the Hour input.

1. Use + button to add 1
2. Press the hr/min button one time switching to MINUTE display. Use + button to add 20 on  
On the program#1, having mix time with 1hr and 20 min.
3. Use ▲ and ▼ button to switch the PROGRAM. There are 20 programs memory for saving data.  
Press + or -button to adjust the value and use the shift button to select the mixing time, rest time and cycle.
4. To activate the tumbler, please press START/PAUSE button once. If you want to stop the operation, you can press STOP CYCLE button. If you want to pause the cycle, please press START/PAUSE button during the operation. If you want to restart the operation, please press the START/PAUSE button again.
5. During the operation, presses HR/MIN, you can check the remaining time for the operation.
6. If the single digit has “dot” on, the number means how many HOURS left. If the single digit has NO “dot”, the number means how many MINTUTES left. To know the total time left, you need to check the Hours and Minutes.

# 5.MACHINE SPECIFICATION

Model	W	L	H	A	B	C	Capacity
TM-3000S	2875(113.2")	1965(77.4")	2005(78.9")	2025(79.7")	ø1490(58.7")	505(19.9")	Kg



## 6.MACHINE OPERATION EXPLAIN.

Check the right power source with the name plate of the machine. Plug in the power and ready to operate the machine.

Turn on main power switch and set the value on control panel. After finish all of the setting push down the safety bar and press “Start/Pause” button to start the function. Safety function will be effective and machine will stop at the same time while user pull up the safety bar or gear motor box during working process.

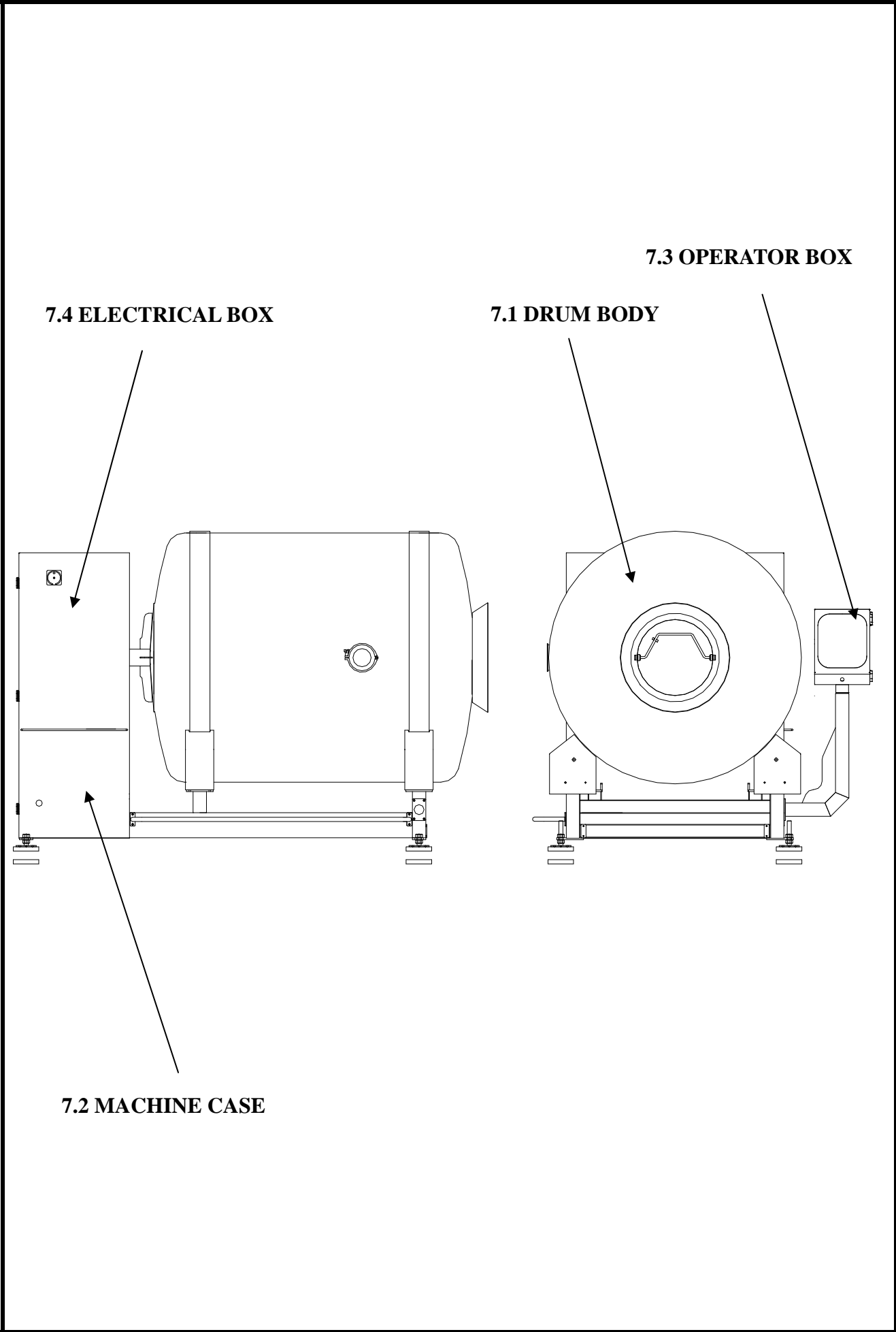
After vacuum tumbling job finish, machine will stop and air ventilation at the same time. As soon as machine finish air ventilation, open the vacuum cover and use unloading switch to unload the product in drum.

The stopper on the side of the machine is design to hold the drum and remain it in the same angle and help user to load in the processing product. How to use the stopper:

- A. Push in the handle bar of stopper to the hole of the drum before load in the processing product.
- B. Pull back the handle bar of stopper from the hole of the drum before start the machine.

Warning: The handle bar of the stopper must be pulled back before user start the machine!! The machine will be damaged if user have not fulfill it!!

# 7. FABRICATION



7.4 ELECTRICAL BOX

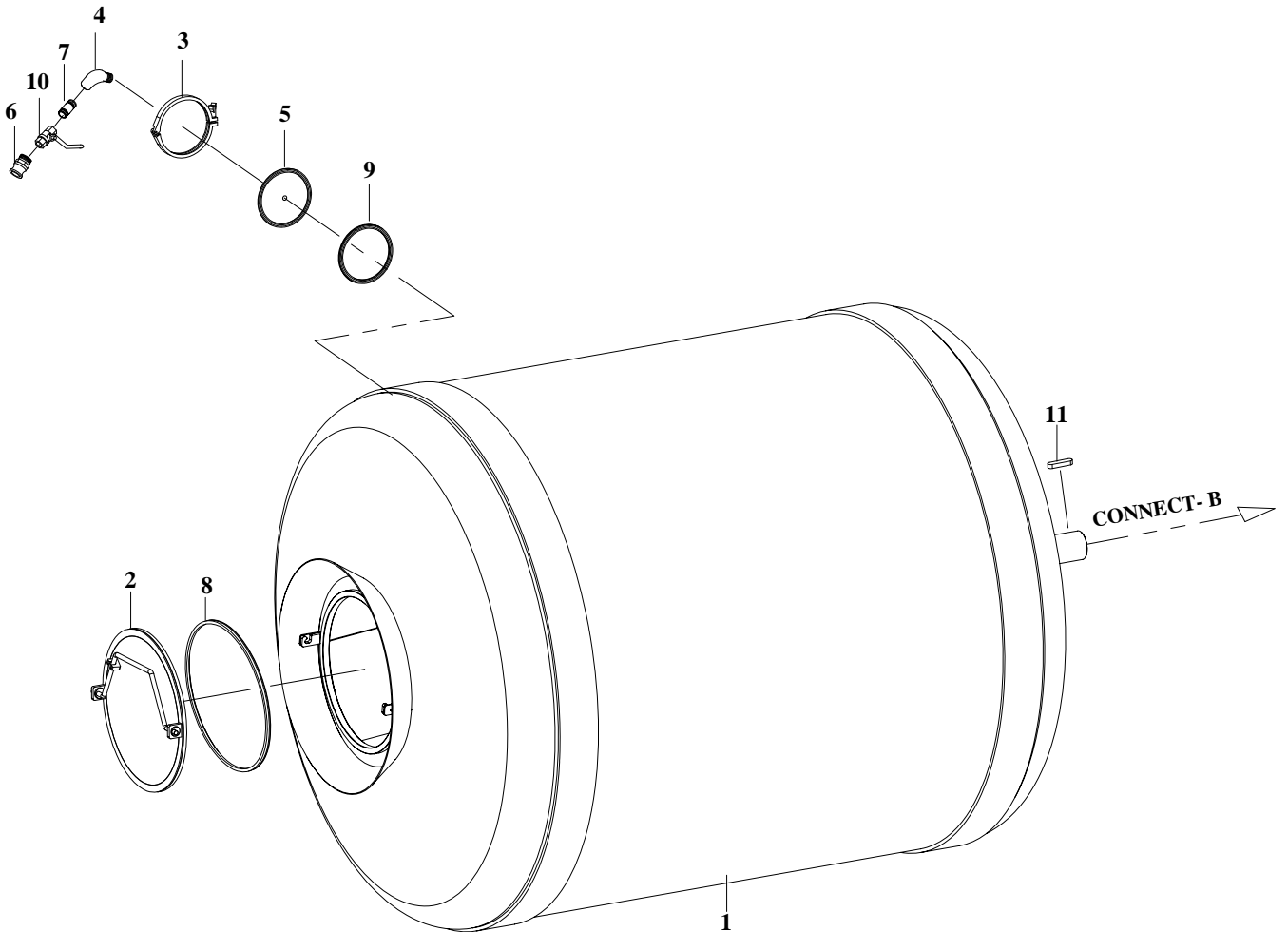
7.1 DRUM BODY

7.3 OPERATOR BOX

7.2 MACHINE CASE

## 7.1 DRUM BODY

### Drum Body Diagram

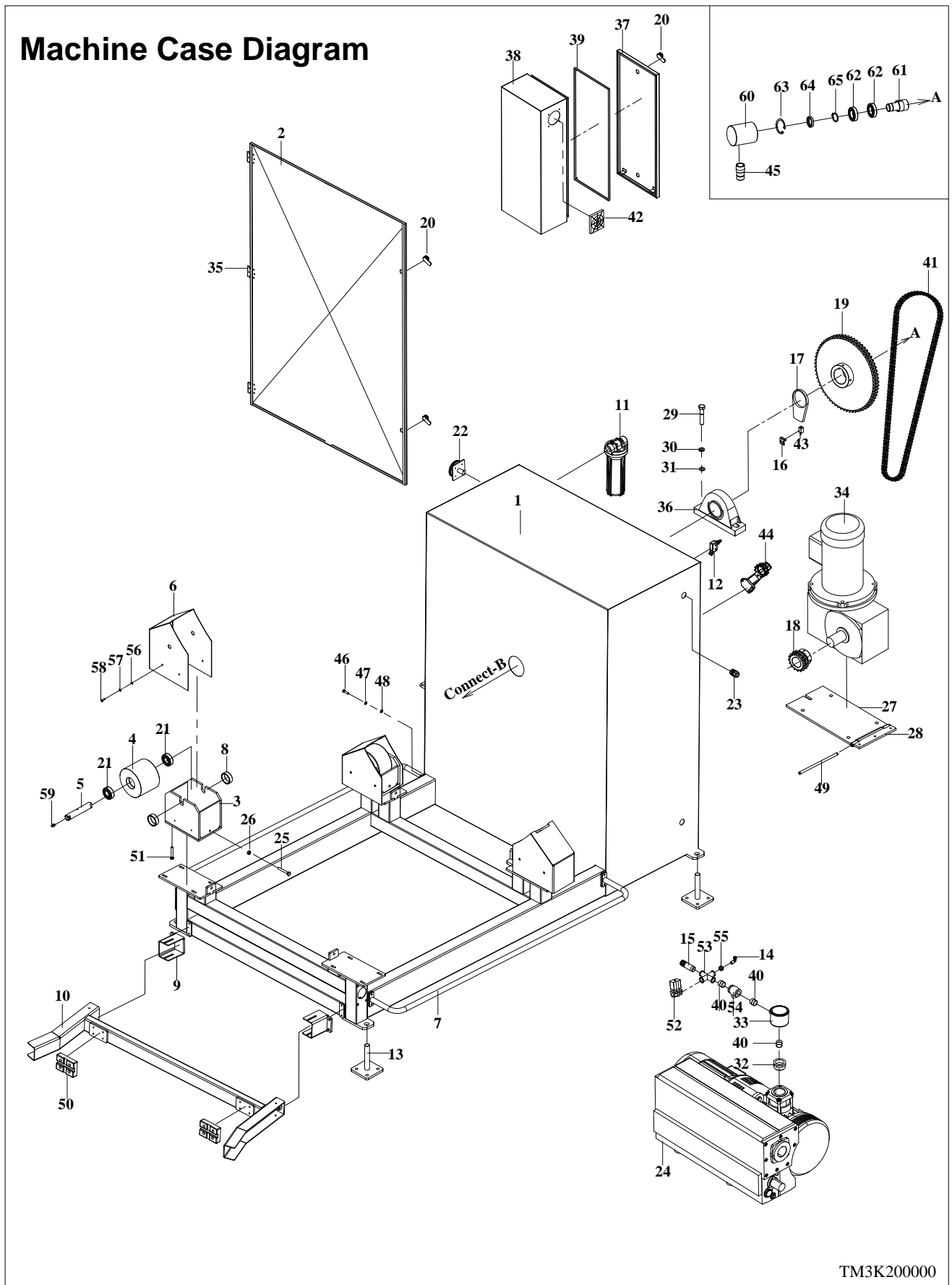


TM3K10000



NO.	PART NO.	DESCRIPTION	QTY	NOTES
1	TM3K201000	Drum tank	1	
2	TM3K202000	Front corver	1	
3	29092253	Heavy duty single pin clamp IDF-015 6"	1	
4	29092621	Fitting 3/4"	1	
5	TM1K206000	Fitting	1	
6	29093294	Fitting 316 F 3/4"	1	
7	290932782	Nipple 3/4"x9cm	1	
8	3114467	Lid gasket	1	
9	29092254	Gasket IDF-017 6"	2	
10	29095031	Fitting 3/4"	1	
11	TM3K231000	Key 22x14x77	1	

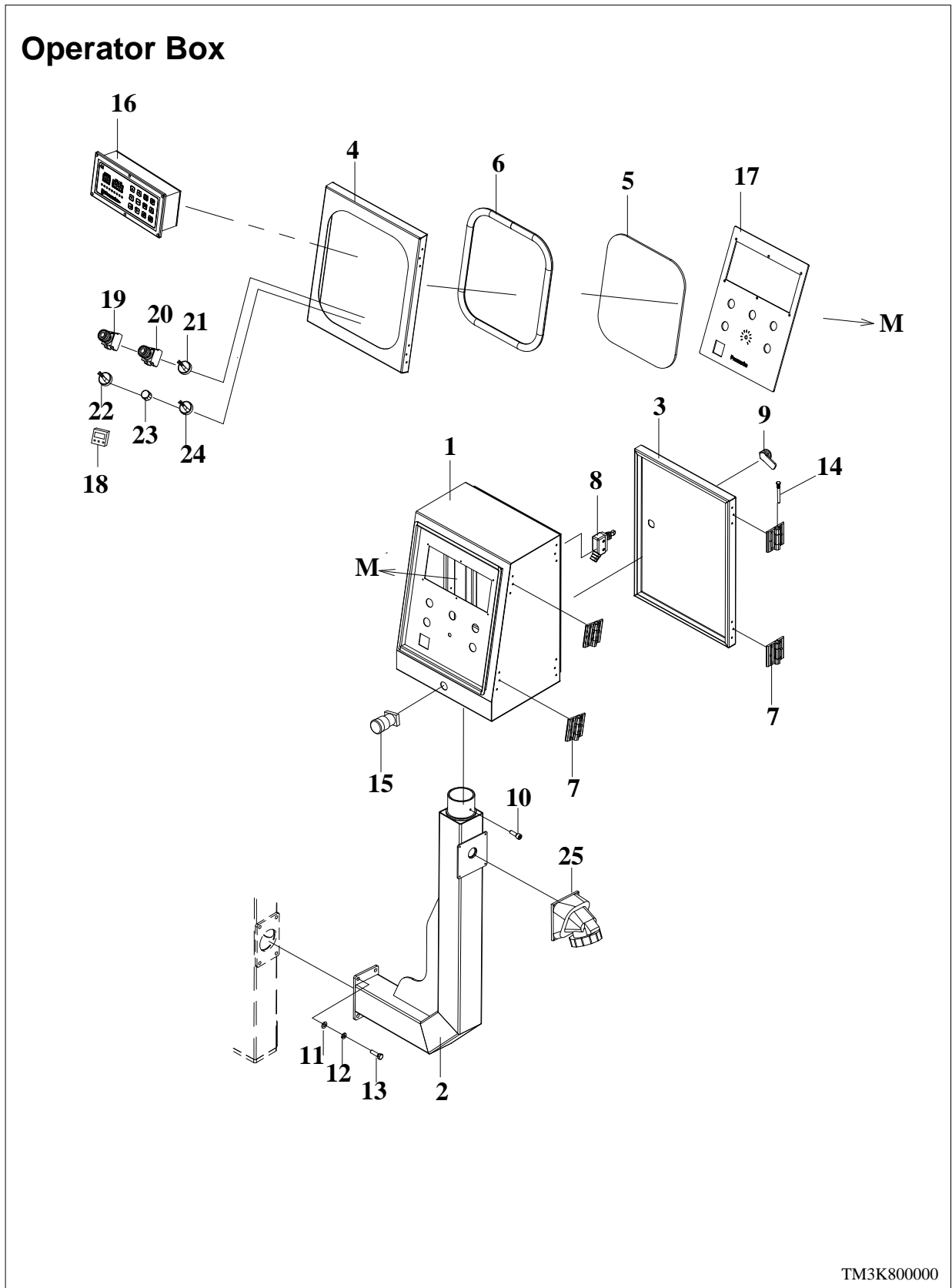
## 7.2 MACHINE CASE DIAGRAM



NO.	PART NO.	DESCRIPTION	QTY	NOTES
1	TM3K101000	Frame	1	
2	TM3K102000	Side door	1	
3	TM3K103000	Wheel fixed plate	4	
4	TM3K104000	Wheel	4	
5	TM3K105000	Shaft	4	
6	TM3K117000	Wheel cover	4	
7	TM3K107000	Protect rod	2	
8	TM3K113000	Pad	8	
9	TM3K125000	Plate	2	
10	TM3K124000	Plate	1	
11	2940004	Filter bottle	1	
12	2853313	Limit switch	1	
13	TM3K106000	Base leg	4	
14	29093432	Fitting A036-2 1/2"x5/16" 90	1	
15	TM1K122000	Fitting	1	
16	TM1K112000	Sensor fixed plate	1	
17	TM3K111010	Switch sensor plate	1	
18	TM3K109000	Chain wheel	1	
19	TM3K116000	Chain wheel	1	
20	2883349	Round lock C-408K	4	
21	27280423	Bearing 6206	8	
22	28017051	Switch	1	
23	2861025	Straight connectot MG20A	1	
24	PRA205-230	Vacuum pump	1	
25	2700454	Hex head screw M10x70	4	
26	2707017	Nut M10	4	
27	TM3K121000	Motor fixed plate	1	
28	TM3K122000	Motor fixed plate	1	
29	27002051	Hex head screw M22x70	2	
30	2705232	Split lock washer M22	2	
31	27051291	Flat washer M22	2	

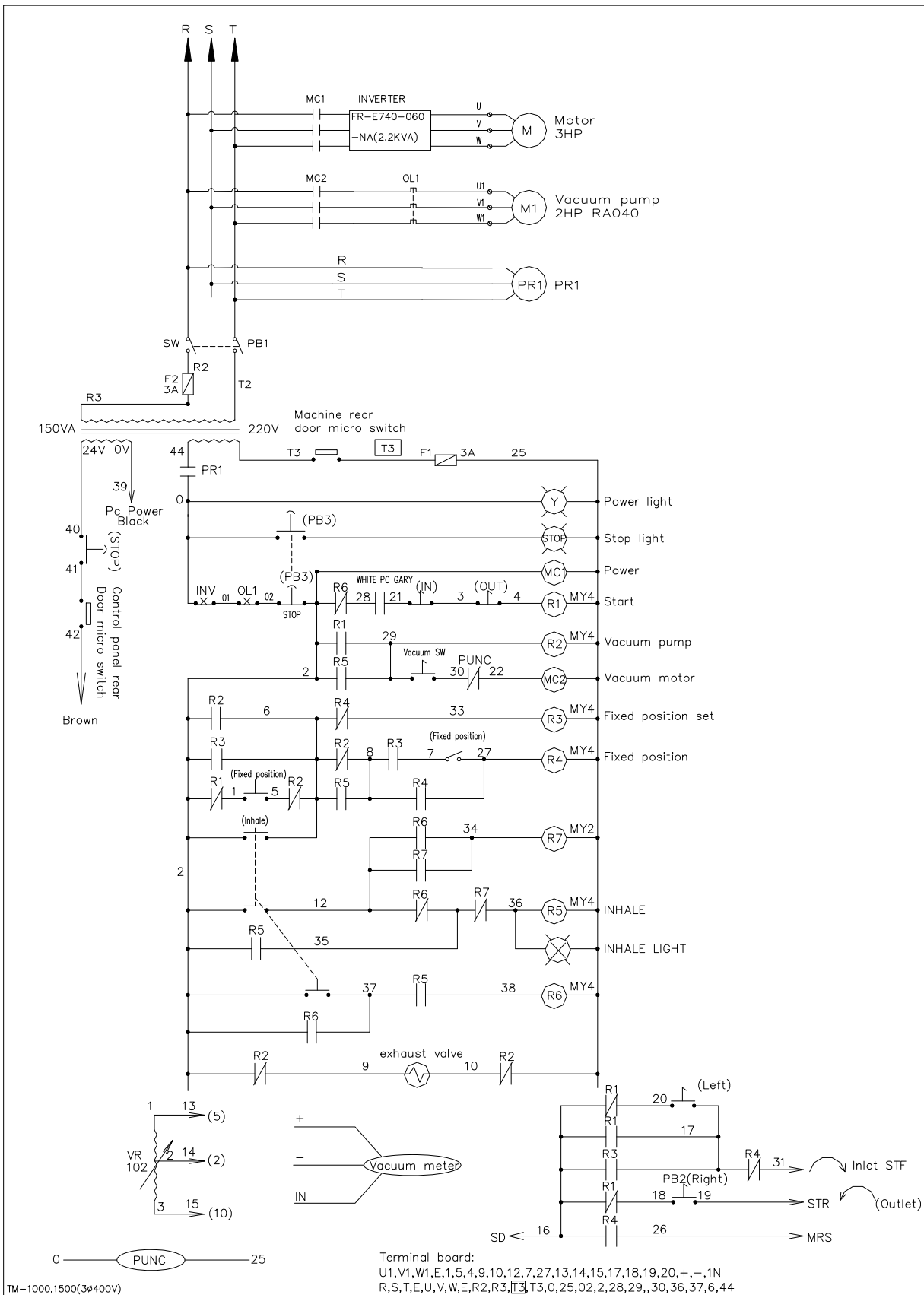
NO.	PART NO.	DESCRIPTION	QTY	NOTES
32	29092083	Fitting 1-1/4"x3/4"	1	
33	293080	Air filter 3/4"	1	
34	28143068	Motor WRS AEUL 5HP/4P 220/380V 50/60HZ	1	
35	D2320000	Hinge	3	
36	272855713	Bearing pillow block UCP216	1	
37	TM1K802001	Electrical box door	1	
38	TM1K801001	Electrical box	1	
39	TM1K803001	Panel	1	
40	29092183	Fitting 3/4"x3cm	3	
41	2713RS60-2	Chain RS60-2	1	
42	2893126	Fan	2	
43	28511110	Sensor	1	
44	2714252	Chain wheel plate RSC-45-60D	1	
45	DC80150001	Fitting	1	
46	2700408	Hex head screw M8x20	12	
47	2705301	Split lock washer M8	12	
48	2705152	Flat washer M8	12	
49	TM3K123000	Shaft	1	
50	27412084	Protect plate	2	
51	2700400	Hex head screw M10x25	16	
52	29110018	Valve MUV-20-D-AC220V	1	
53	29091507	Fitting 3/4"	1	
54	2914059	Valve YORK itap 3/4"	1	
55	2909141	Fitting 3/4"x1/2"	1	
56	2705151	Flat washer M8	12	
57	2705302	Split lock washer M6	12	
58	27004021	Hex head screw M6x20	16	
59	2740140	Nipple graese 1/8T	4	
60	TM3K204000	Fitting	1	
61	TM3K205000	Fitting	1	
62	27280643	Bearing 6008	2	
63	2706241	Ring R68	1	
64	274005922	Oil seal D40x62x11	1	
65	27060131	Ring S40	1	

## 7.3 OPERATOR BOX

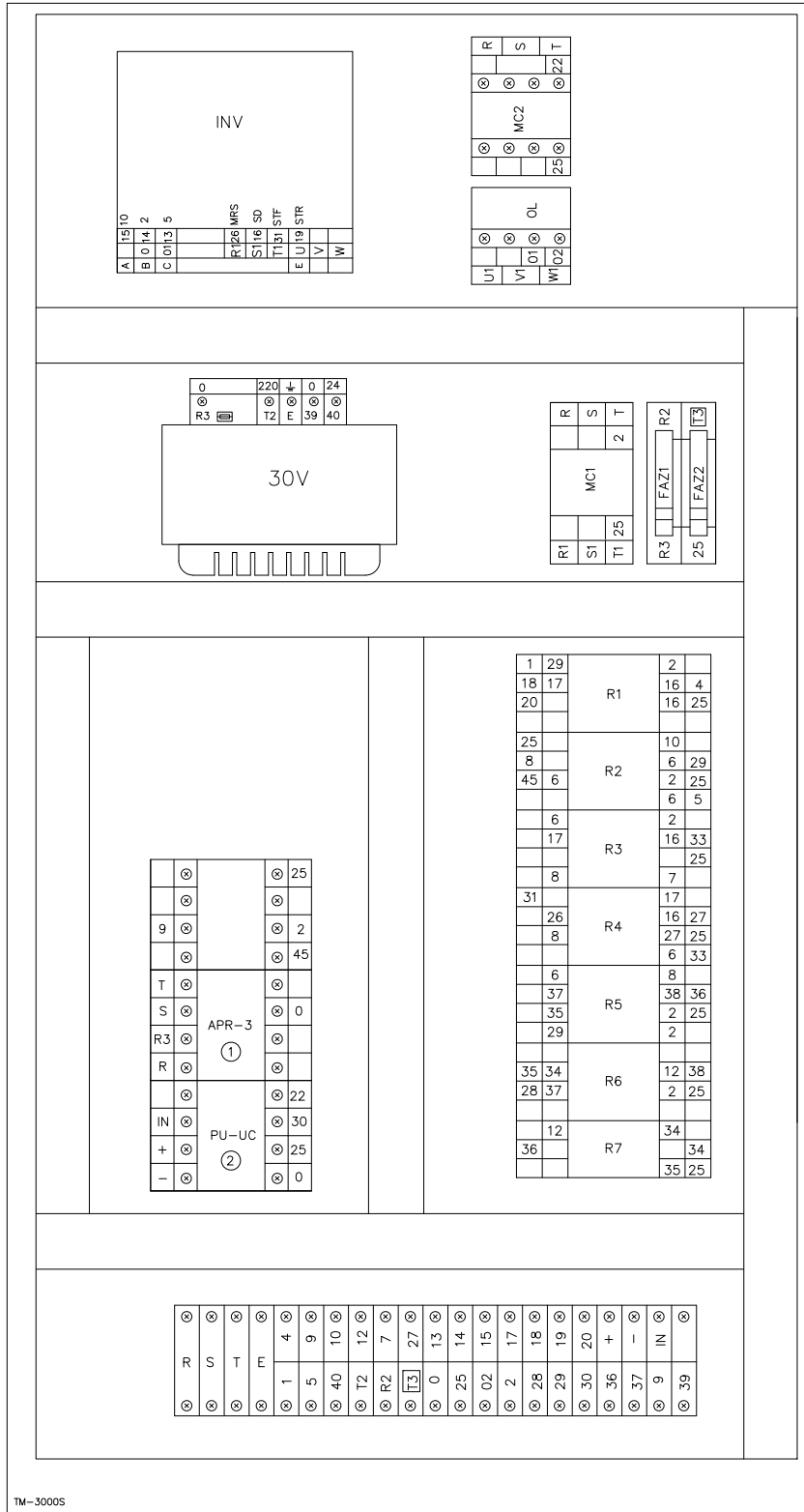


NO.	PART NO.	DESCRIPTION	QTY	NOTES
1	TM1K811001	Operation box	1	
2	137017A0	Operation box support base	1	
3	TM1K813000	Operation box back-cover	1	
4	TM1K814010	Operation box cover	1	
5	TM1K814020	Window	1	
6	TM1K814030	Gasket L=1020	1	
7	D2320000	Hinge	4	
8	2853313	Limit switch	1	
9	2883349	Door lock C408K	1	
10	2701167	Socket, hex hd M5x20 (S)	1	
11	2890132	Washer, flat M10 (S)	4	
12	2705304	Split lock washer M10	4	
13	27004001	Screw, hex hd M10x20 (S)	4	
14	MSK1122000	Pin, hinge	4	
15	28700782	switch, irradiation type bgend of button NLB22-R11RI AC2	1	
16	2874044	Control panel	1	
17	TM1K812000	Control panel plate	1	
18	2961019	Pressure switch	1	
	2961018	Pressure switch mount		
19	2871704	Switch yellow TE ZB4-BA5	1	
	28704940	Button guard ZBPO		
20	2871764	Switch blue TE ZB4-BW36	1	
	28704940	Button guard ZBPO		
21	2871722	Switch TE ZB4-BD2	1	
22	2871724	Switch TE ZB4-BD3	1	
23	2896418	Switch black	1	
	2896440	Variable resistor		
24	2871782	Switch TE ZB4-BK1243	1	
25	2844012	3P+E380V/16A LEG55307	1	

# 7.4 ELECTRICAL DIAGRAM



# 7.4 ELECTRICAL BOX



TM-3000S



ITEM	PART NO.	DESCRIPTION	SPECIFICATION	Q'TY	NOTE
MC1	28107282	Contactora	TELC1D018M7 (AC220V)F	1	
MC2	28107283	Contactora	TELC1D09M7 (AC220V)F	1	
R1~6	2830197	Relay	RXM4AB-2P7 AC220	6	
	2831106	Socket,Relay	SY4S-05D	6	
R7	2830198	Relay	RXM2A2P7 AC220	1	
	2833327	Socket,Relay	PYF08A-C MY2	1	
T1	28960018	Transformer	30VA/0-110-220V.OF- 24V UL	1	3 $\phi$ 220V
	28960082	Transformer	150VA/380-400- 415V.OF-24V UL	1	3 $\phi$ 380/400V
KM1 OL	2811645	Relay, Overload	LRD-14(7-10A)	1	3 $\phi$ 220V
	2811616	Relay, Overload	LRD-012(5.5-8A)	1	3 $\phi$ 380/400V
IN1	2805424	INVERTER	FR-E720-110-NA	1	3 $\phi$ 220V TM1000/1500
	2805434	INVERTER	FR-E740-060	1	3 $\phi$ 380/400V TM1000/1500
QM1	28017051	Switch selector	P1-32/EA/SVB	1	
TMR1	2832020	TIMER	GE1A-B30HA220	1	
PU-NC	28560093	Controller	DC12V 50mA (AC220)	1	
	2833202	Socket	PF-085A	1	
APR-3	2830154	Relay	APR-3S AC208-440V	1	
	2833202	Socket	PF-085A	1	
T.B	2843204	Terminal,block	PUW-20	23	
	2843202	Terminal,block	PTU-20L	2	