



**TM-5000**

# **Vacuum Tumbling Machine**

## **Operation Manual**

Version 6.9.1

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# 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

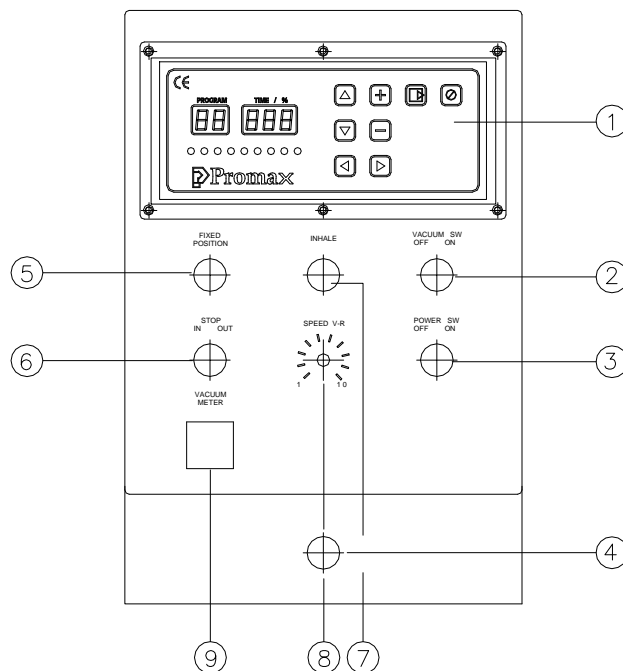
- A. To ensure vacuum pump works smoothly suggest change the vacuum oil every 500 working hours or every a half year.
- B. Check water filter bottle everyday, as soon as the water over a half of the bottle please cleans it.

# 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. °

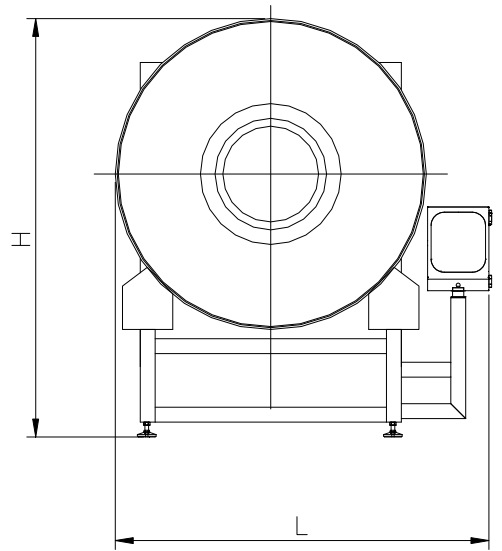
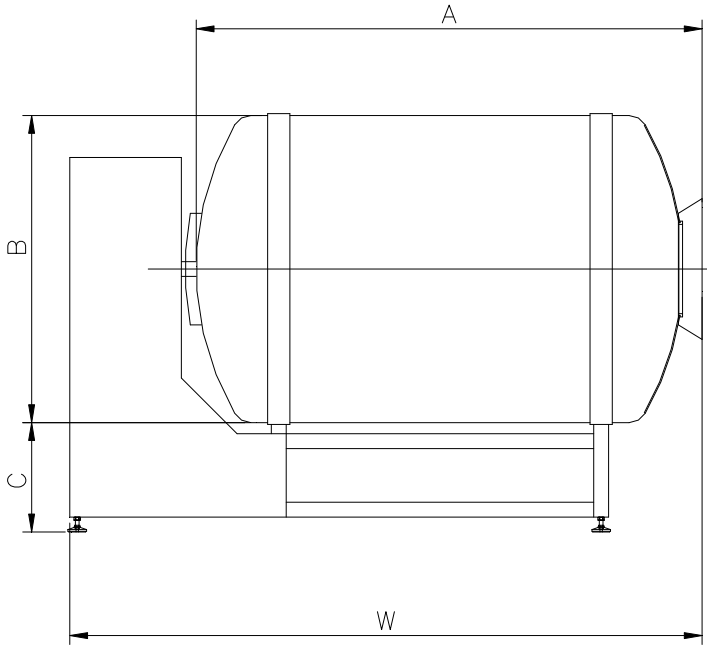
For example:

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-5000	3457(136.1")	2080(81.9")	2350(92.5")	2695(106.1")	ø1666(65.6")	670(26.4")	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.

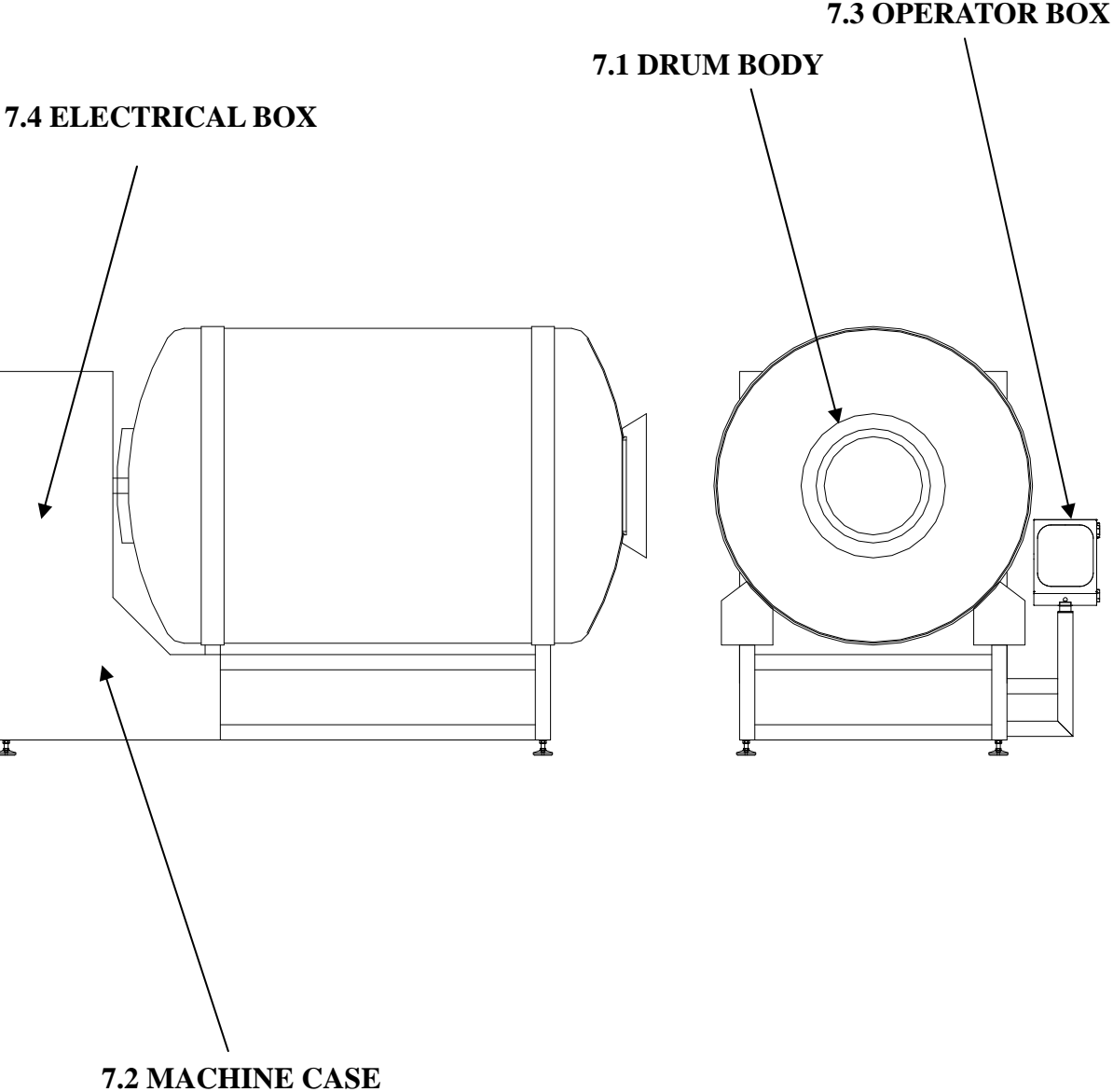
After vacuum tumbling job finish, machine will stop and air ventilation at the same time. As soon as machine finish air ventilation, open the vacuum cover and use unloading switch to unload the product in drum.

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.

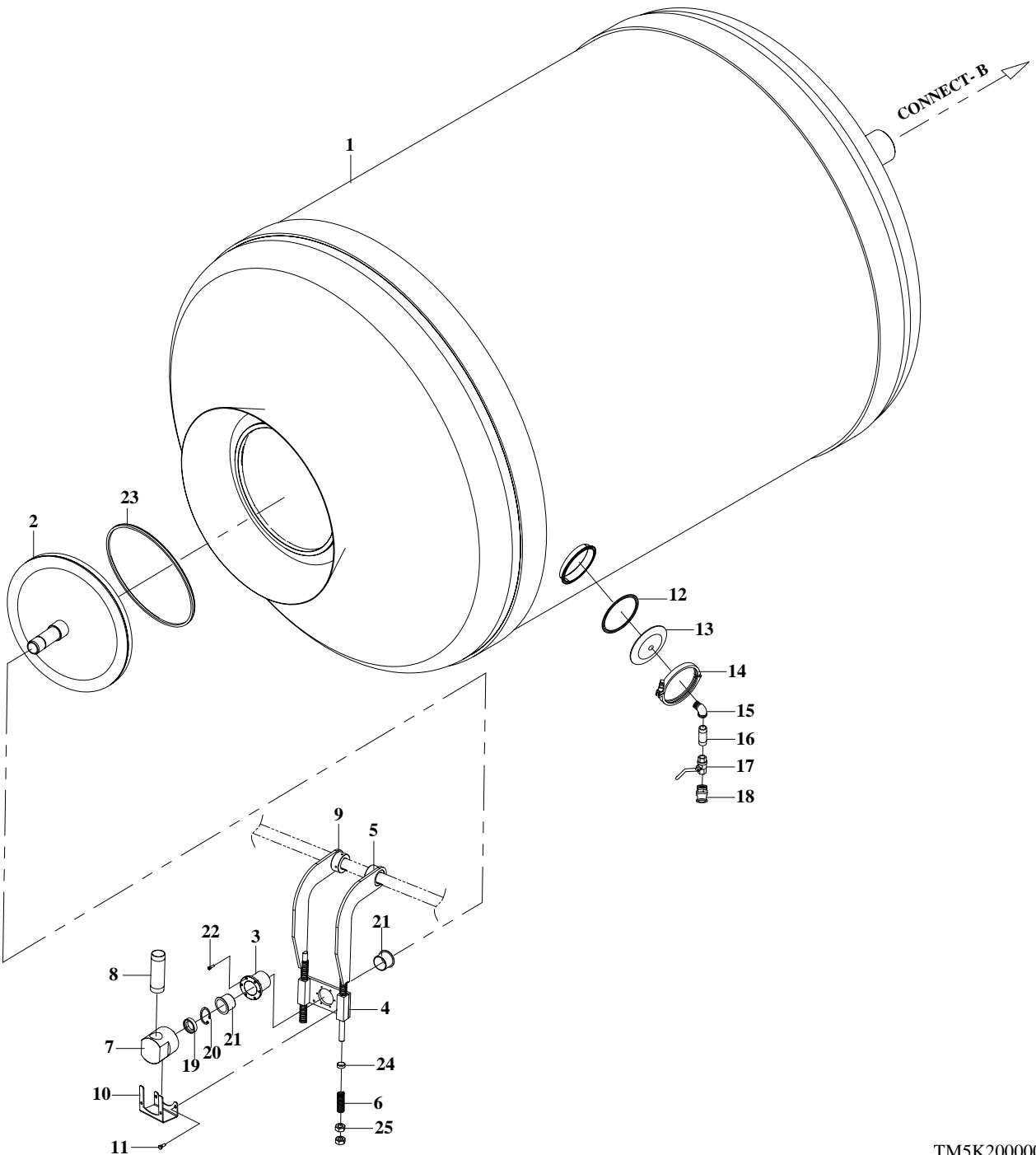
Warning: The handle bar of the stopper must be pulled back before user start the machine!! The machine will be damaged if user have not fulfill it!!

# 7. FABRICATION



# 7.1 DRUM BODY

## Drum Body Diagram



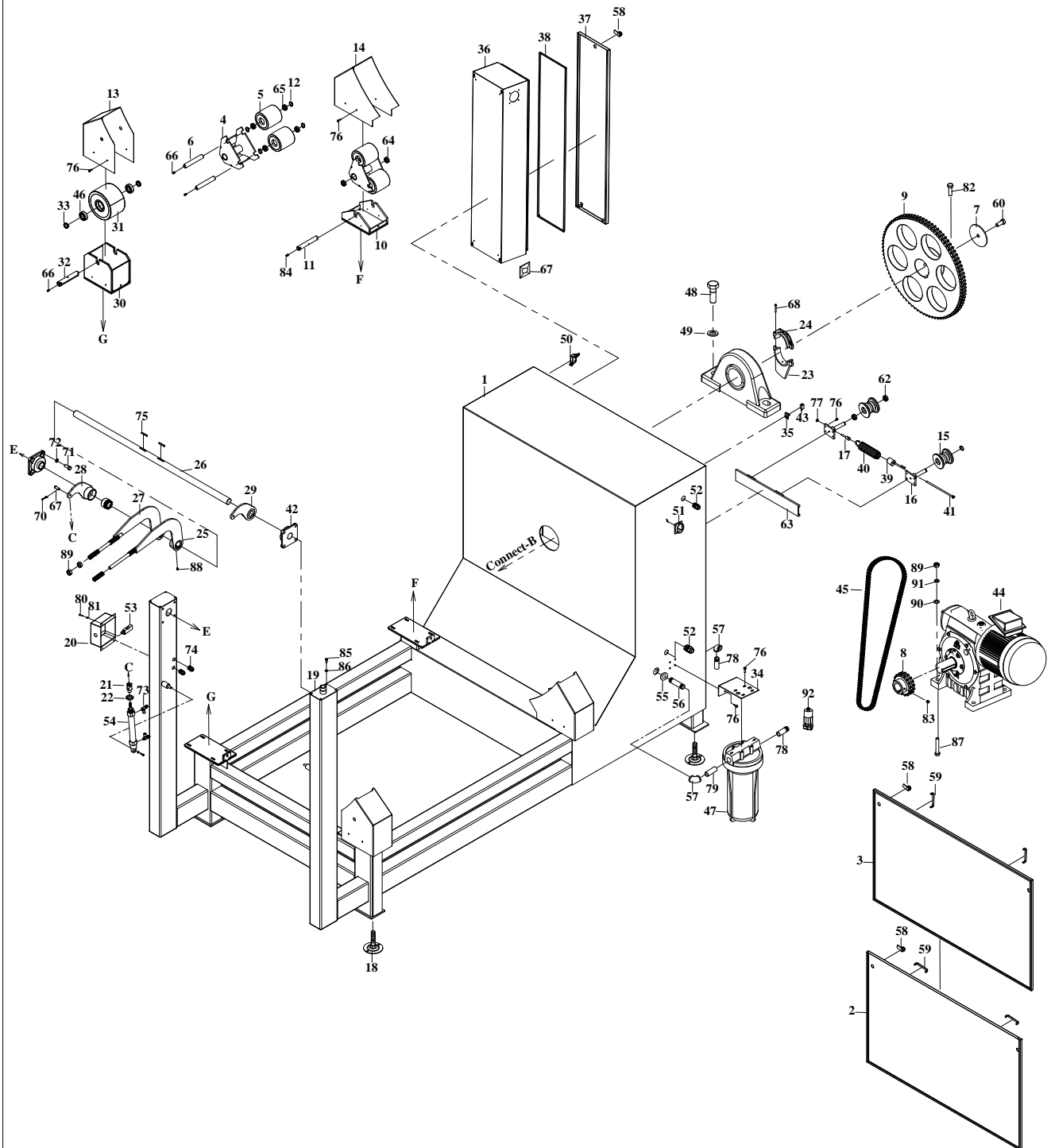
TM5K200000



<b>NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>NOTES</b>
1	TM5K201000	Drum tank	1	
2	TM5K202000	Front corver	1	
3	TM5K203000	Front corver shaft	1	
4	TM5K205000	Fitting 3/4"	1	
5	TM5K206001	Front corver (R)	1	
6	TM5K209000	Spring	4	
7	TM5K210000	Fitting	1	
8	D80K235101	Fitting	1	
9	TM5K212001	Front corver (L)	1	
10	TM5K215000	Fixed plate	1	
11	2700415	Hex hd screw M8x16	2	
12	29092254	Gasket IDF-017 6"	1	
13	TM1K206000	Fitting	1	
14	29092253	Heavy duty single pin clamp IDF-015 6"	1	
15	29092621	Fitting 3/4"	1	
16	29092183	Nipple 3/4"x3cm	1	
17	29095031	Fitting 3/4"	1	
18	29093294	Fitting 316 F 3/4"	1	
19	27400555	Oil seal TC 50x65x8	1	
20	27060081	Ring S50	1	
21	2728918	Bearing A290 FM-5055-40	2	
22	2701153	Hex socket hd screw M6x20	6	
23	3114467	Lid gasket	1	
24	2728919	Bearing A290 FM-5055-40	4	
25	27070126	Nut M18x2.5	2	

# 7.2 MACHINE CASE DIAGRAM

## Machine Case Diagram



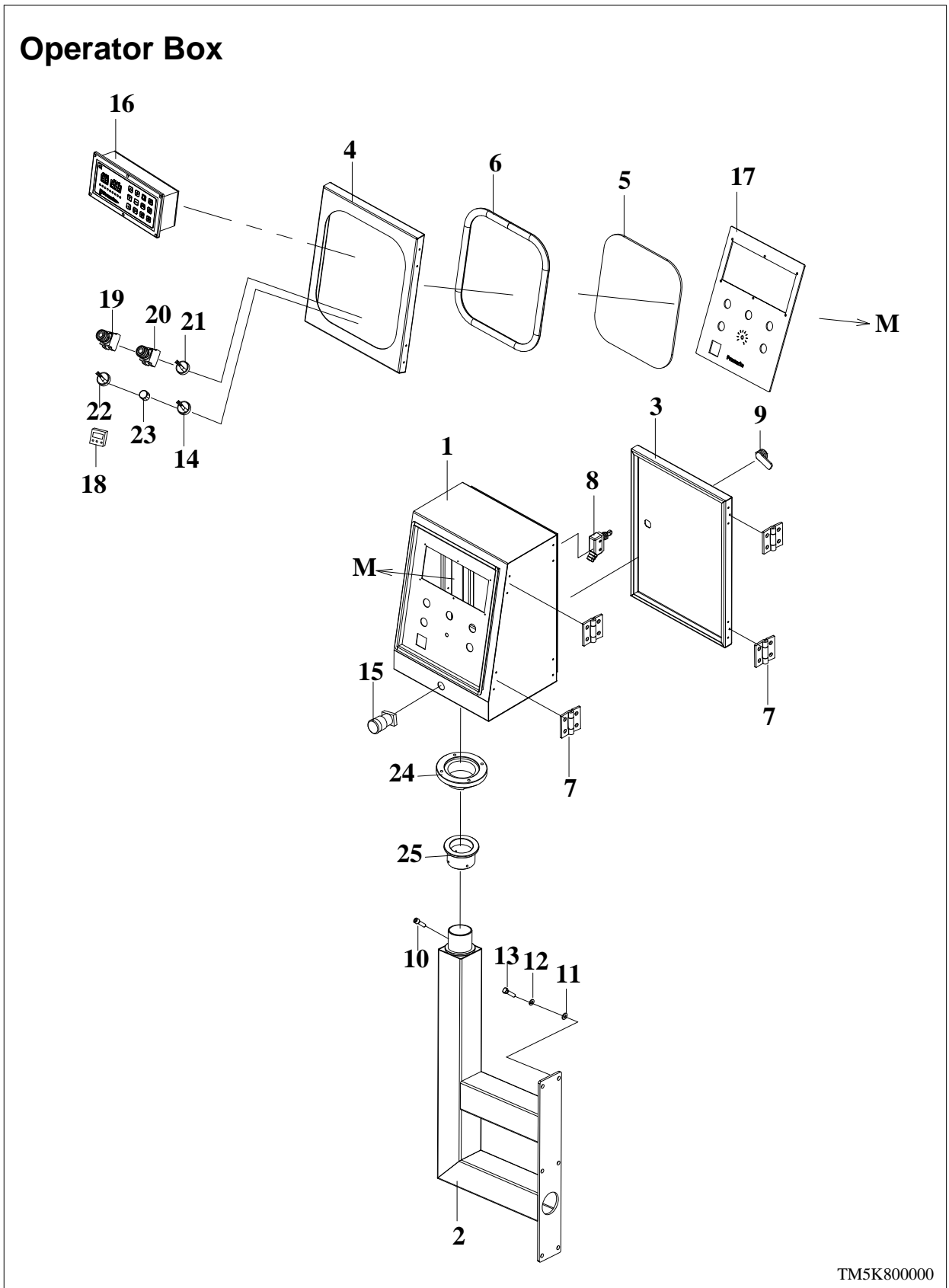
TM5K200000

<b>NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>NOTES</b>
1	TM5K101000	Frame	1	
2	TM5K102010	Back door	1	
3	TM5K102020	Back door	1	
4	TM5K103000	Wheel fixed plate	2	
5	TM5K104000	Back Wheel	4	
6	TM5K105000	Shaft	4	
7	TM5K101370	Washer	1	
8	TM5K111000	Chain wheel	1	
9	TM5K116000	Chain wheel	1	
10	TM5K108000	Wheel fixed Plate	2	
11	TM5K110000	Shadt	2	
12	TM5K113000	Bushing	8	
13	TM5K117000	Cover	2	
14	TM5K118000	Cover	2	
15	TM5K119000	Wheel	2	
16	TM5K124000	Wheel fixed Plate	2	
17	TM5K126000	Spring mounting bar	1	
18	TM5K121000	Base leg	4	
19	TM5K127000	Fitting	1	
20	TM5K132000	Fixed plate	1	
21	TM5K134000	Y fitting	2	
22	TM5K135000	Nut	2	
23	TM5K122000	Sensor fixed plate	1	
24	TM5K125000	Sensor fixed plate	1	
25	TM5K206001	Front corver arm for right	1	
26	TM5K207000	Shaft	1	
27	TM5K212001	Front corver arm for left	1	
28	TM5K213000	Front corver arm	1	
29	TM5K214000	Front corver arm	1	
30	TM3K103000	Wheel fixed Plate	2	
31	TM3K104000	Wheel	2	

<b>NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>NOTES</b>
32	TM3K105000	Shaft	2	
33	TM3K113000	Pad	4	
34	TM5K302000	Fix plate	1	
35	TM1K112000	Sensor fixed plate	1	
36	TM5K801001	Electrical box	1	
37	TM5K802001	Electrical box door	1	
38	TM5K803001	Panel	1	
39	SC68207000	Holder	1	
40	SC68208000	Extension Spring	1	
41	DC53211000	Spring pull shaft	1	
42	27285031	Bearing pillow block UCF208	2	
43	28511110	Sensor	1	
44	2815291	LM-HMW-155-60-L-7.5HP	1	
45	2713076	Chain RS80-2	1	
46	27280423	Bearing 6206	4	
47	29400043	Filter bottle	1	
48	27070637	Hex head screw M36x120	2	
49	2921116	Split lock washer M36	2	
50	2853313	Limit switch	1	
51	28017051	Switch	1	
52	2861025	Straight connectot MG20A	2	
53	2933093	Mechanical valve MVMB-220-4TB-22	1	
54	29276386	Cylinder MCMA-11-40-225-A	2	
55	27147341	Dust sheet	1	
56	2909325	Nipple 1"x20cm	1	
57	2909231	Elbow 1"	2	
58	2883349	Door lock	6	
59	2883139	Arm MS-743-128	4	
60	27000440	Hex head screw M20x30	1	
61	27281532	Shaft bushing PL040x065	2	
62	27280044	Bearing 6004	4	
63	2719000	Slide mount	1	
64	2728A60	Dried bearing SPB-253530	4	
65	27280454	Bearing 6005	8	

NO.	PART NO.	DESCRIPTION	QTY	NOTES
66	2740140	Nipple ,grease 1/8T	6	
67	2893126	Fan	1	
68	2700431	Hex hd screw M6x60	2	
69	TM5K133000	Air fitting	2	
70	27433226	Pin	2	
71	2700472	Hex hd screw M14x30	8	
72	27015155	Split lock washer M8	8	
73	2908016	Controller speed JSC 801	4	
74	2861037	Fitting MG-16A-10G	2	
75	2709214	Key 8x7x45L	2	
76	2700439	Hex hd screw M6x25	24	
77	2707224	Nut M8	1	
78	290921841	Nipple 1"x10cm	2	
79	29093250	Nipple 1"x50mm	1	
80	2700414	Hex hd screw M5x12	4	
81	2705303	Split lock washer M5	4	
82	27011382	Hex hd screw M20x2.5x60L	2	
83	2704623	Set M12x20	2	
84	2740142	Nipple ,grease 8mm	2	
85	2700405	Hex hd screw M8x25L	8	
86	2705187	Split lock washer M8	8	
87	2701040	Hex hd screw M18x100	4	
88	2704618	Set M8x10	2	
89	27070126	Nut M18x2.5	8	
90	2705119	Washer M18	4	
91	2705325	Split lock washer M18	4	
92	29110021	Valve Solenoid VXZ 2360-10-4GR1	1	

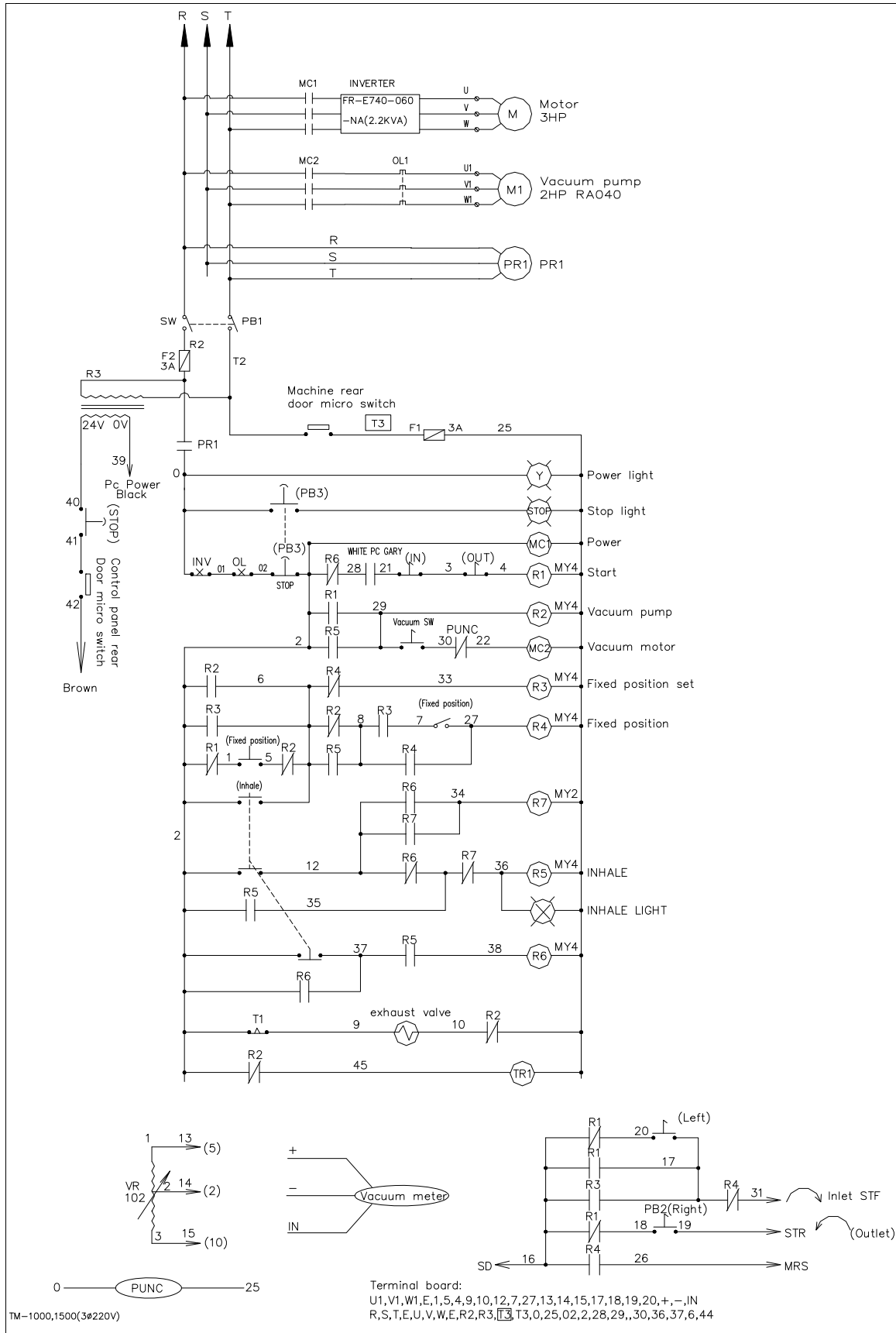
## 7.3 OPERATOR BOX



TM5K800000

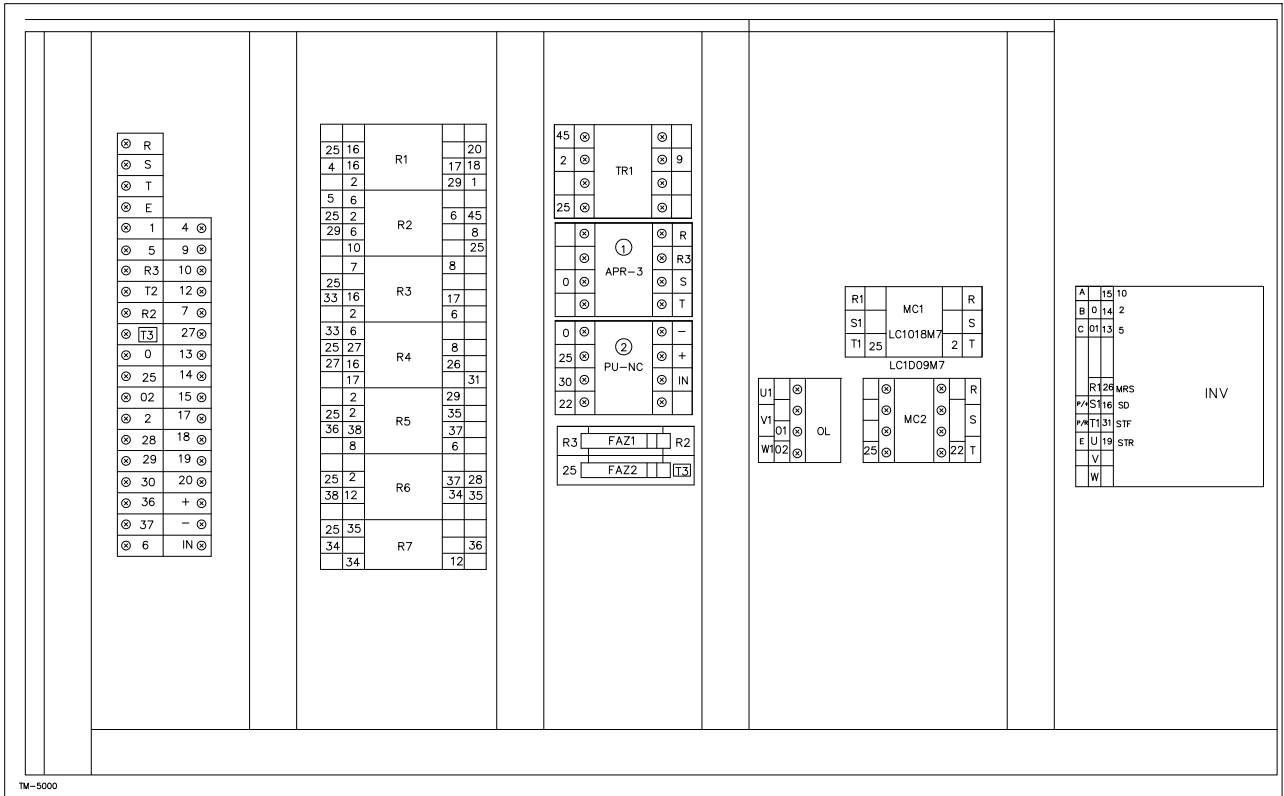
NO.	PART NO.	DESCRIPTION	QTY	NOTES
1	TM1K811002	Operation box	1	
2	TM5K806000	Operation box support base	1	
3	TM1K813001	Operation box back-cover	1	
4	TM1K814010	Operation box cover	1	
5	TM1K814020	Window	1	
6	TM1K814030	Gasket L=1020	1	
7	28831391	Hinge CL-200-3	4	
8	2853313	Limit switch	1	
9	2883349	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	2871782	Switch TE ZB4-BK1243	1	
15	28700782	Stop emergency NLB22-R11RI AC220V	1	
16	2874044	Control panel	1	
17	TM1K818000	Control panel plate	1	
18	2961011	Pressure switch(w/cover)	1	
19	2871704	Switch yellow TE ZB4-BA5	1	
	28704940	Button guard ZBPO	1	
20	2871764	Switch blue TE ZB4-BW36	1	
	28704940	Button guard ZBPO	1	
21	2871722	Switch TE ZB4-BD2	1	
22	2871724	Switch TE ZB4-BD3	1	
23	2896418	Switch black	1	
	2896440	Variable resistor		
24	TM1K819000	Operation Box Fixed Seat	1	
25	TM1K821000	Operation Box Fixed Sleeve	1	

# 7.4 ELECTRICAL DIAGRAM





# 7.4 ELECTRICAL BOX



TM-5000

ITEM	PART NO.	DESCRIPTION	SPECIFICATION	Q'TY	NOTE
MC1~2	2810731	Contactora	TELC1D40AM7 (AC220V)	2	
R1~6	2830197	Relay	RXM4AB-2P7 AC220	3	
	2831106	Socket,Relay	SY4S-05D	3	
R7	2830198	Relay	RXM2AB2P7 AC220	1	
	2833327	Socket,Relay	PYF08A-C MY2	1	
KM1 OL	2811600	Relay, Overload	LRD-0325(17-25A)	1	
IN1	2805025	INVERTER	FR-E720-330-NA	1	
QM1	28017051	Switch selector	P1-32/EA/SVB	1	
Timer	2832020	TIMER	GE1A-B30HA220	1	
	2833202	Socket,Relay	PF-085A	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	