



MSK-32

Brine Injector Operation Manual



Operation Manual

Version 6.9.1

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MSK-32 Brine Injector Introduction

The Promax MSK-32 brine injector has been designed and manufactured utilizing advanced technology and electronics. It has been designed to promote ease of operation and reliable performance. The machine incorporates a complete safety system for the protection of the operator.

The step feed system on the MSK-32 uses a gear drive for unsurpassed accuracy. The three piece removable feed shoe facilitates ease of cleaning. The machine utilizes an advanced air head design that produces a perfect injection effect for both bone in and boneless products.

The injection frequency, injection pressure, injection rate as well as the step spacing is all adjustable to meet your specific requirements.

The MSK-32 is equipped with a three stage filtration system that prevents scrap from clogging the needles and causing jamming. The brine tank is equipped with an agitator to help prevent the holes in the filter from becoming clogged and the unique pneumatic needle cleaning helps speed up the needle cleaning process.

1. Technical parameter

First injecting rate : ≥ 140

Second injecting rate : ≥ 180

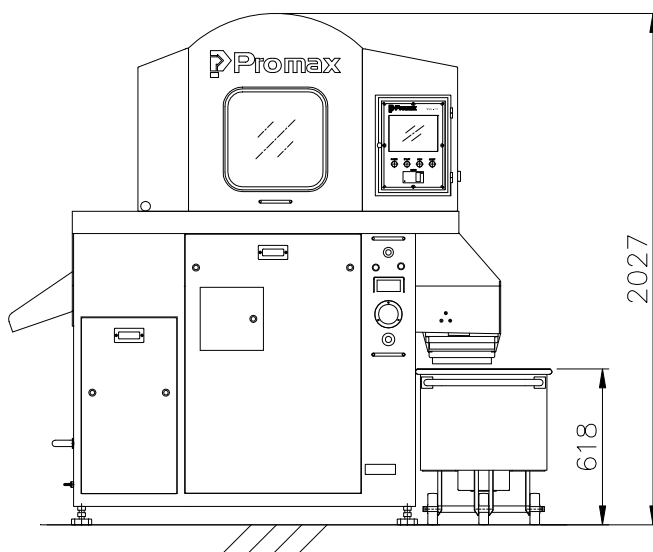
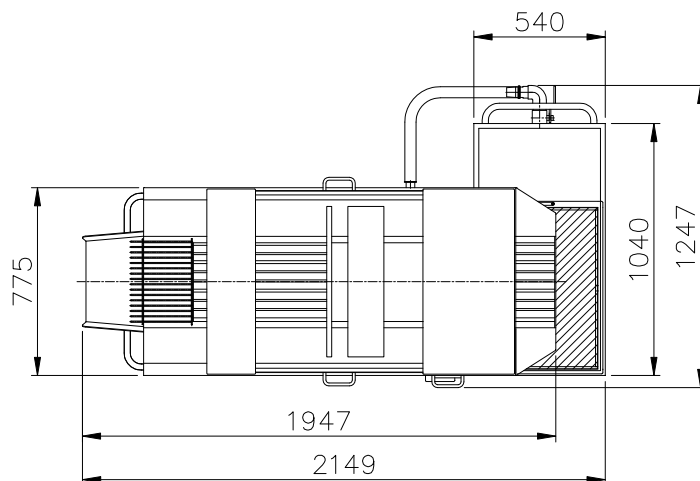
Injecting speed : 15-56 times/min

Power : 220V 60Hz

Pressure : 0.2-0.5Mpa

Needle quantity : 32

Specification : MSK-32



2.Installation

2.1 Placing and Leveling the Machine: There are four wheels and four spiral anchors on the bottom of the machine. When moving the machine, screw in the anchors and the four wheels can carry the machine. Once the machine is in the designated site, screw out the anchors counter clockwise, then the four wheels will lift off the ground and adjust the anchors to level the fuselage.

2.2 Compressed Air Connection: There is a compressed air hose union on the left bottom of the machine's back which can be used for this connection.

2.3 Main Power Connection: The MSK-32 comes with a power cord attached. The electrical requirements can be found on the machine's serial number plate located at the rear of the machine. Promax recommends that the main power connection be installed by a certified electrician who is familiar with your local building codes

2.4 Brine Preparation: Make sure the brine does not contain granules or long fibers and does not contain ingredients that will erode stainless steel or Teflon. Check to make sure that the quick change couplers on the hose that connects the brine take to the injector are firmly fastened and that the level of brine in the tank is higher than the inlet of the brine pump.

3. Items to Check Before Start Up

3.1 The four doors and the top-hoods must closed otherwise the machine cannot be run. The PLC control system will indicate whether all the doors are closed and the safety interlocks engaged.

3.2 Check the level of the brine in the brine tank. It must be above the height of the brine pump inlet. Caution: To run the pump with the brine level too low can cause the pump to fail.

3.3 Check to make sure that the brine in the tank is clean and free of any foreign debris.

4. Cleaning

4.1 **Cleaning the Brine Pipe:** Once the injection process has been completed another complete cycle should be run using clean water. This will remove any sediment or residue from the brine system.

4.2 **Cleaning the Housing:** Withdraw the lace bar first, then take out the gear frame and wash out the water channel.

4.3 Needle Cleaning Procedure

4.3.1 Needle head removal

- a. Release air pressure from the needle head air valve.
- b. Remove ringed push pins, only two are removed so the head will hinge back to support.
- c. Carefully open needle head, tilt back and rest on rest support.
- d. Caution – needles may not all be in lower position. You may need to lower needles down one by one until all are down. Opening the head while needles are in the up position will damage or break them. If, when opening the head, you feel resistance, stop. Check the needle location

4.3.2 Needle removal

- a. Pull upward on needles to remove them.

4.3.3 Needle cleaning

- a. Insert needle into needle cleaner.
- b. Press needle cleaner button (on control board). Air will remove material from needle.

4.3.4 Needle replacement

- a. Lightly lubricate the needle with food grade grease. This grease may be ordered from your dealer (reference part # 0123456) Important note:

This grease was specifically chosen for proper operation of the injector head. The warranty on the injector head depends on the proper use and application of this grease.

- b. Re-insert the needle into the head and lower scraper block. Make sure the needle is flush with the head.
- c. After all the needles are installed remove any excess grease. However make sure the heads of the needles are lightly greased.

4.3.5 Needle Head Replacement

- a. Return the needle head carefully to the original position.
- b. Return ring push pins to the locking position.
- c. Lift air valve to return the air pressure to the needle head.

5. Maintenance

5.1 **Daily Visual Inspection:** The machine should be subject to a thorough visual inspection to determine if any parts are showing undue wear or damage. Repair or replace any such part before start up. If the machine has just been brought out of storage it should be completely lubricated before use.

5.2 **Cleaning:** The machine should be washed at the end of each shift and all key operating parts should be oiled to prevent excess wear because of the wet environment.

5.3 **Brine Considerations:** To ensure that the brine is clean do not use any insoluble ingredients, such as long fibers, minced meat or hard particles. To use such ingredients can easily cause jamming of the needles and the brine pump.

5.4 **Brine Filters:** Keep the two stage brine filter screens clean at all times and replace or repair them if they become worn.

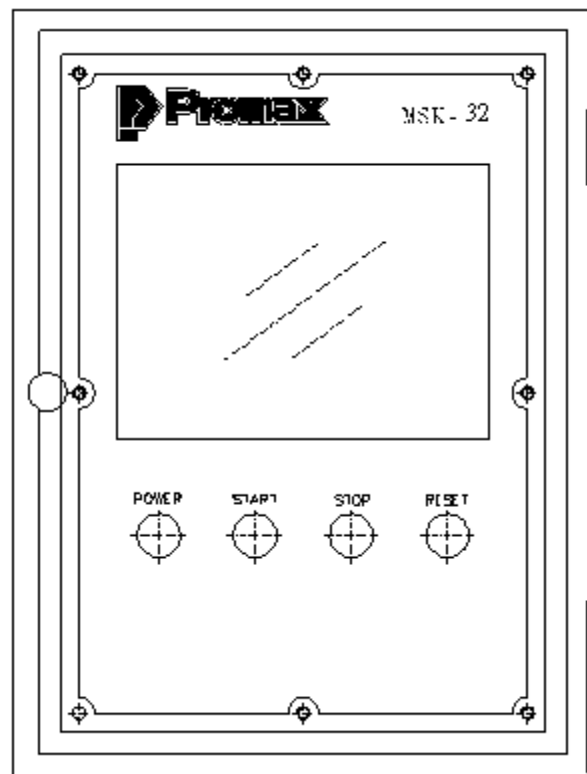
5.5 **The Reducer:** The reducer must be oiled after the first 100 hours of use

and then regularly every 2500 hours of use. Promax recommends the following lubricants: N220-320 for ambient.

6. Troubleshooting

Problem	Reason analysis	Solution
No water comes out from the needle tube	Brine pump jam Needle tube jam Brine pump motor trouble	Clean up obstruction on the brine pump Blow out obstructions in the needles or change needles Motor's wire error, brine pump's
Water yield is not enough	Brine pump or needle tube jams Pressure is too low	Clean up obstructions Change spillway discharge
Noise from pressure regulating valve	Pressure is in the range of jolting	Change the pressure out from the range of jolting
Brine chamber leaking	There is cleft in the needle tube The joint ring in the brine chamber is damaged	Change needle Replace with new joint ring
air chamber leaking	The joint ring in the air chamber is damaged	Replace with new joint ring

7. Operating Parameters



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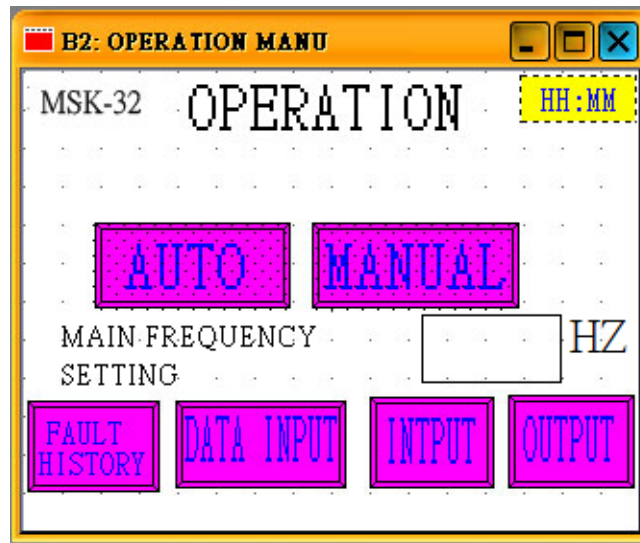
FAX:(909) 481-3335

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When power is on, please check the display on the touch screen if there is any phase error showing. Once there is a phase error, please check the phase rotation.

7.1 Touch page B1 you can get into the page B2(Operation page)

B2(Operation page)



7.1.1 Press AUT bottom, the equipment goes to the AUTO mode. The green START button (Located on the front panel) with the indicated light will be blinking.

7.1.2 Press the green START button. The light will stay on and the motors M1 M2 will activate by sequence.

7.1.3 Press the STOP button. The AUTO mode will stop and the STOP indicated light will stay on.

7.1.4 Press the MANUAL button. Then goes to the Manual mode.

7.1.5 Press DATA INPUT button. Goes to the parameter setting page(Password needed)

7.1.6 Press INPUT button. Goes to the PLC input page which shows the explanation of input signal.

7.1.7 Press OUTPUT button. Goes to the PLC output page which shows the explanation of output signal.

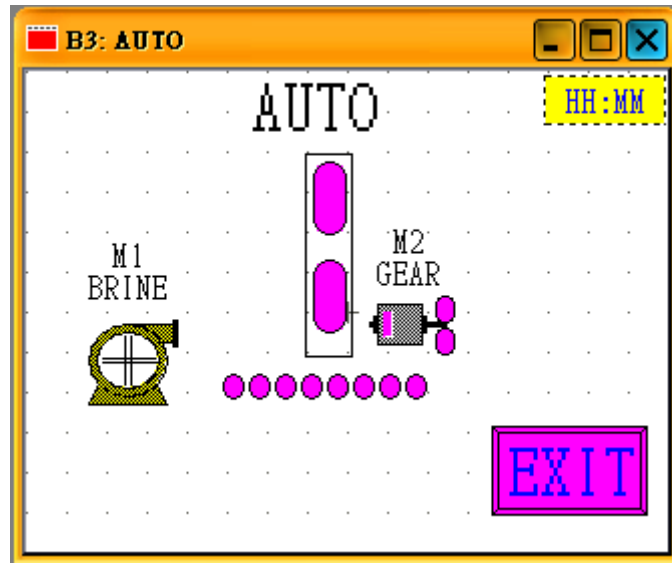
7.1.8 Press FAULT HISTORY button. Shows the fault records.

Please push the EMERGENCY STOP (on the front control box) when is necessary to stop the equipment immediately.

When the ERROR signals appear on the touch screen, press the yellow alarm reset button (on the front control box) to reset (need to fix the error first)

7.2 On the AUTO mode page, you can't change the setting, just overview.

B3 (AUT) Operation Page



AUTO mode

7.2.1 PRESS the START button. The Start button light will stay on and the STOP button will turn off.

7.2.2 The sequence of activating is: motor M1 activates first. After 2 seconds, the motor M2 will start to up/down and inject brine. (The time delay interval can be set on the parameter page).

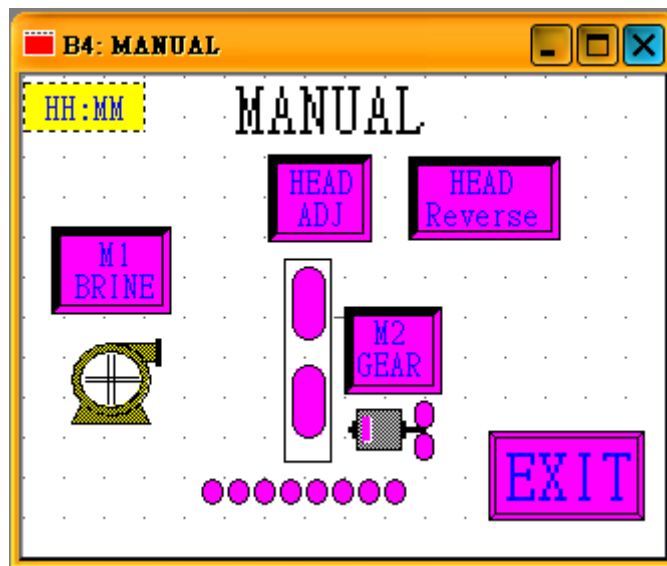
7.2.3 If any error signal comes on the bottom portion of touch screen, please refer the information to fix the error.

7.2.4 Under the AUTO mode, if you want to stop the operation.

- (1) Press the red STOP button on the front control box.
- (2) Press the MANUAL button on the operation page.
- (3) Press the EMERGENCY STOP button.

7.3 Press the EXIT button back to OPERATION page

B4 (MANUAL) Operation Page



MANUAL mode

7.3.1 Press M1 BINE start/stop BRINE PUMP

7.3.2 Press M2 GEAR start/stop UP and DOWN GEAR MOTOR

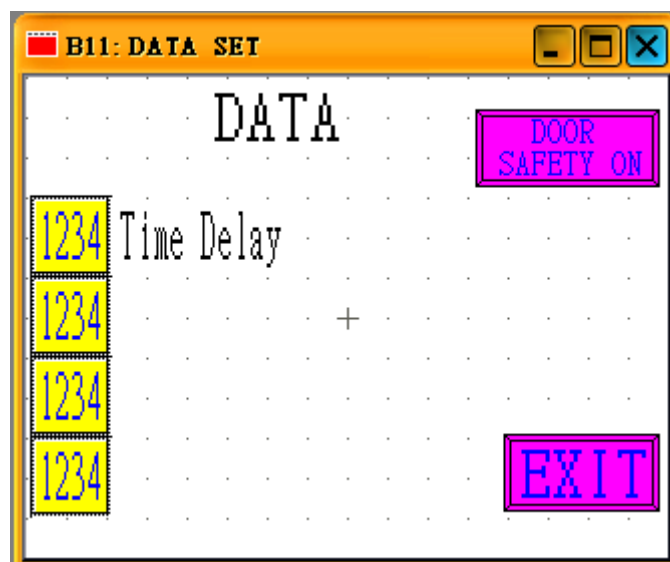
7.3.3 Press HEAD ADJ control the UP and DOWN GEAR MOTOR with slow movement to adjust the proper height for the products (Hold the button will keep moving, once leave from button will stop movement).

7.3.4 When not to work Press HEAD REVERSE control the UP and DOWN GEAR MOTOR with slow movement to adjust the proper height for the products.

7.3.5 If want to out of this page and go to OPERATION PAGE. Just press the EXIT button.

7.4 Parameter Setting Page

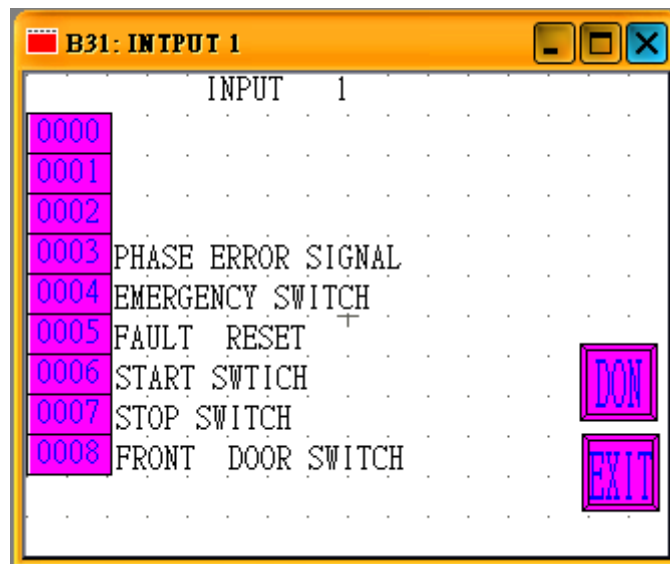
B11 Parameter Setting Page



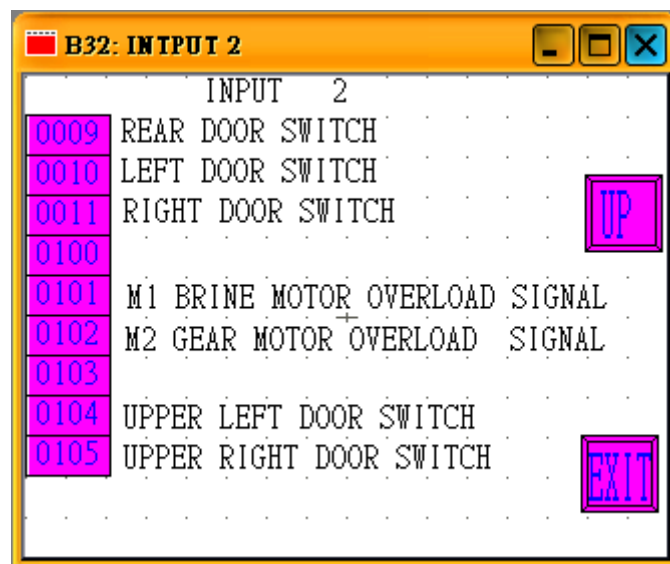
7.4.1 Press the left hand side button. The data will pop out as a keypad. Input the data you want and press ENT to save the setting.

7.4.2 Based on the machine service requirement, you can press the DOOR SAFETY ON/OFF button to dismiss the door safety.(The button shows DOOR SAFETY OFF. This means the DOOR SAFETY protection is off)

B31 PLC INPUT MONITORING PAGE 1

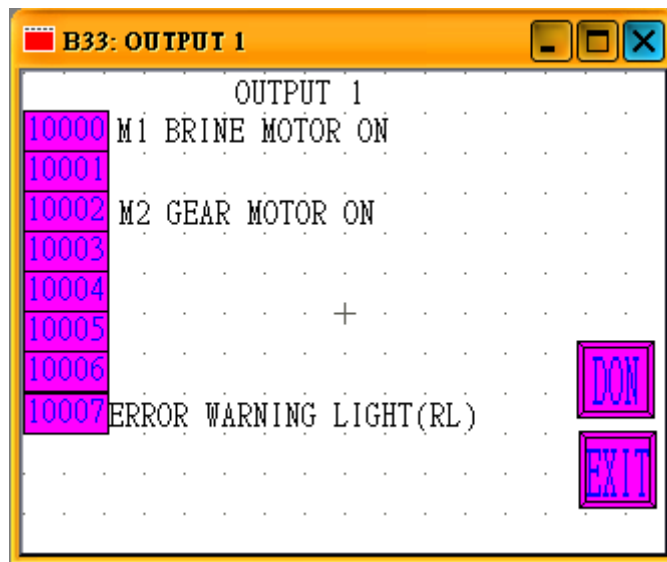


B32 PLC INPUT MONITORING PAGE 2



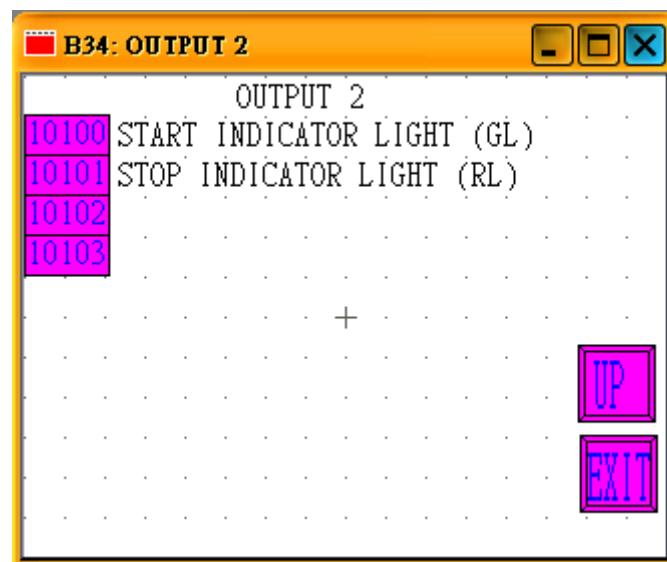
Monitor PLC OUT PUT SIGNAL ON / OFF

B33 PLC OUTPUT MONITORING PAGE 1



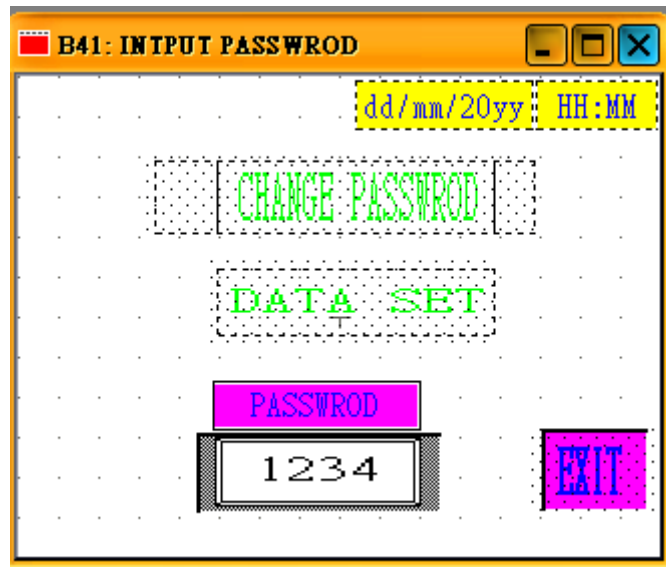
Monitor PLC OUT PUT SIGNAL ON / OFF

B34 PLC OUTPUT MONITORING PAGE 2



7.5 PASSWORD INPUT PAGE

B41 PASSWORD INPUT PAGE



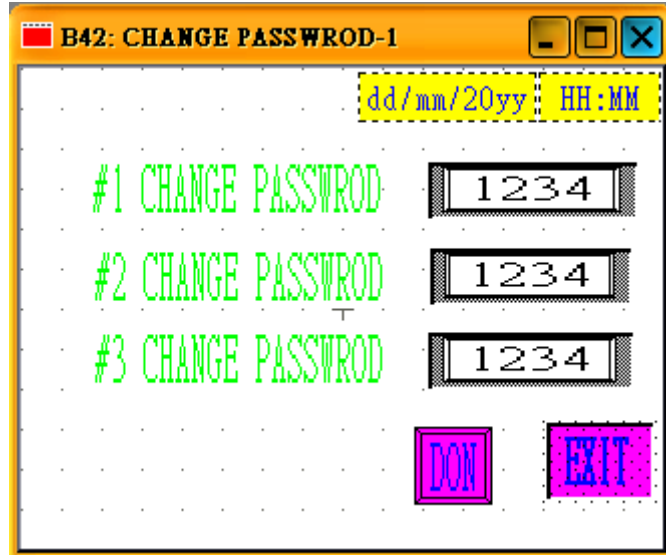
The password is 4 digital

7.5.1 Tap the PASSWORD window, then the keypad will pop out. Input the password and press ENT.

7.5.2 Basic password can access the DATA SET.

7.5.3 High end password can access CHANGE PASSWROD

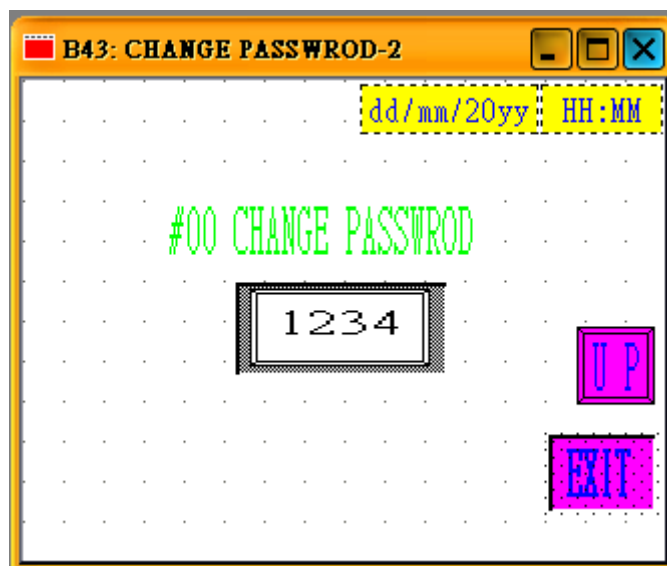
B42 BASIC PASSWORD CHANGE PAGE



7.5.4 Tap the right hand side number window and input the password you want.

7.5.5 Press “DON” button to the next page for high end password change.

B43 HIGH END PASSWORD CHANGE PAGE

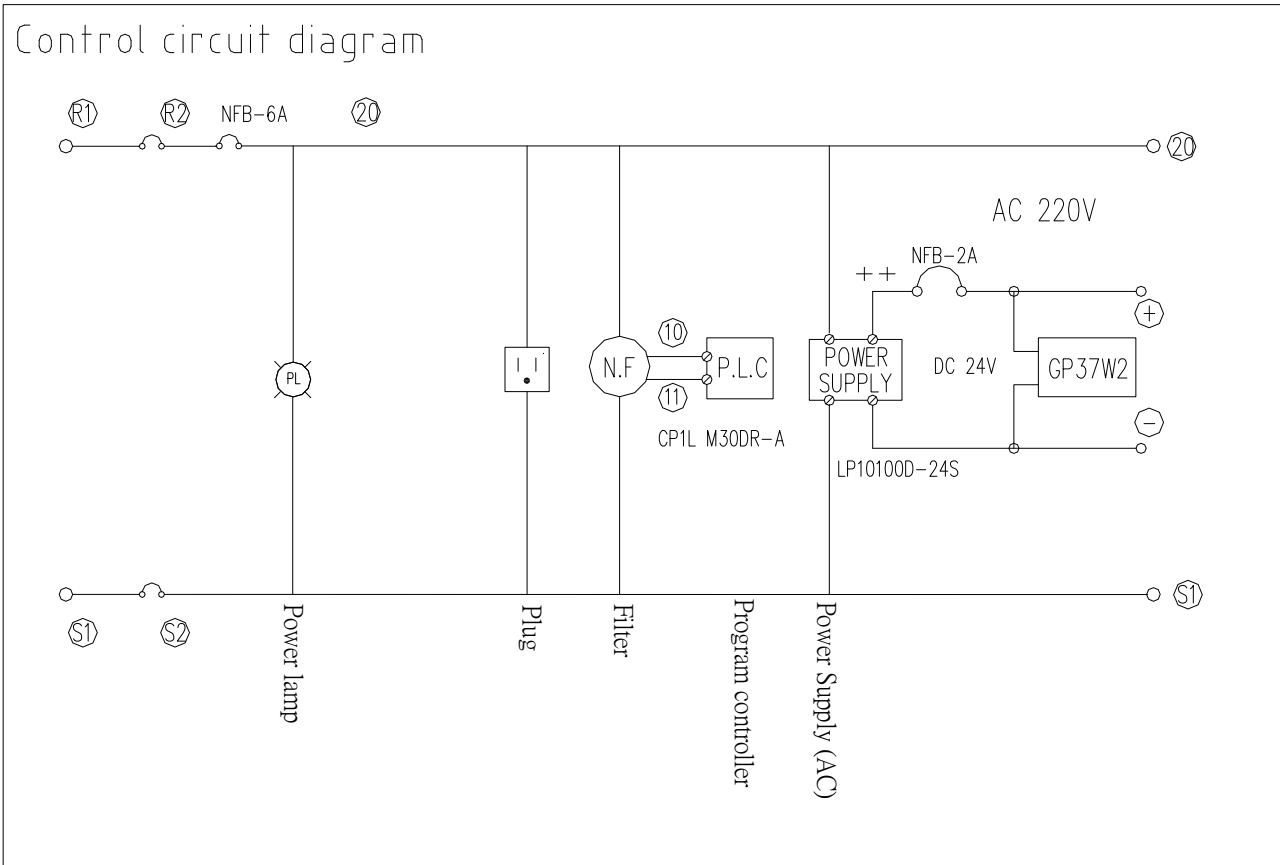
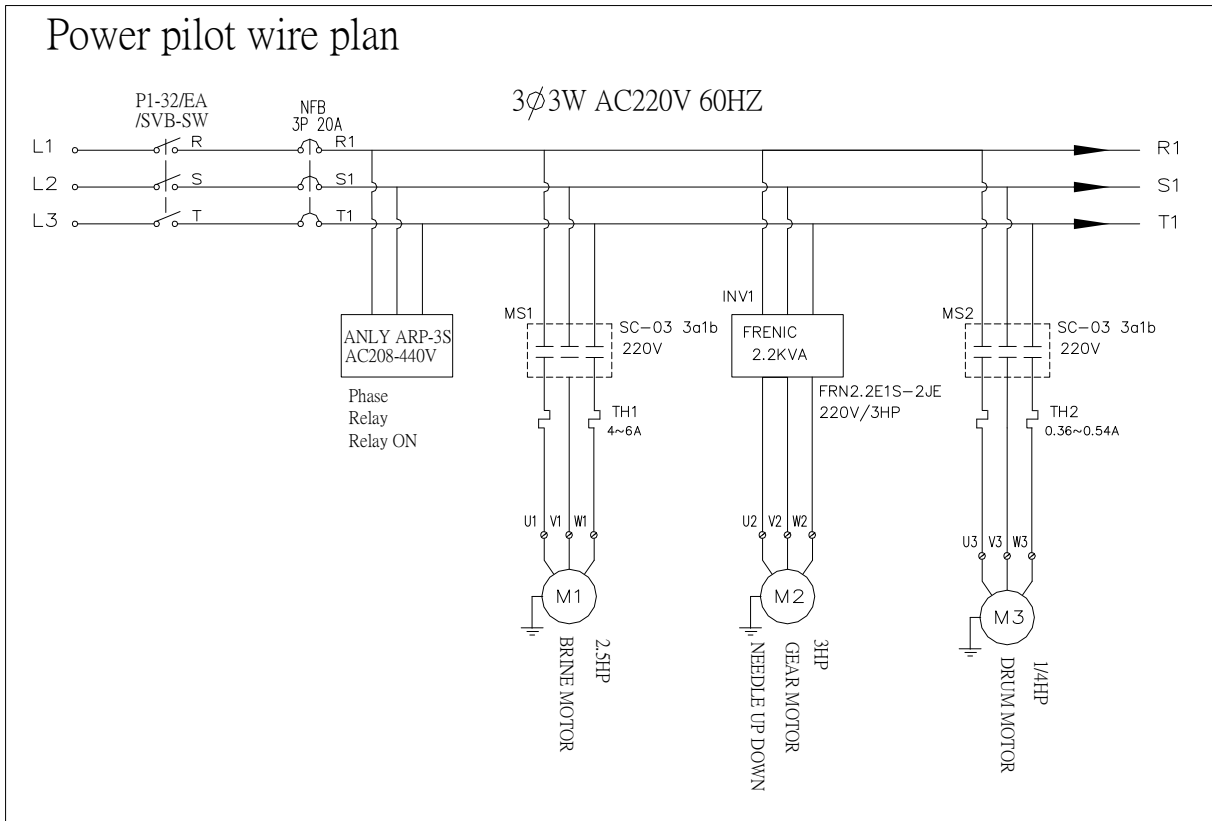


7.5.6 Tap the number window and input the password which you want to change with. Press ENT button to save.

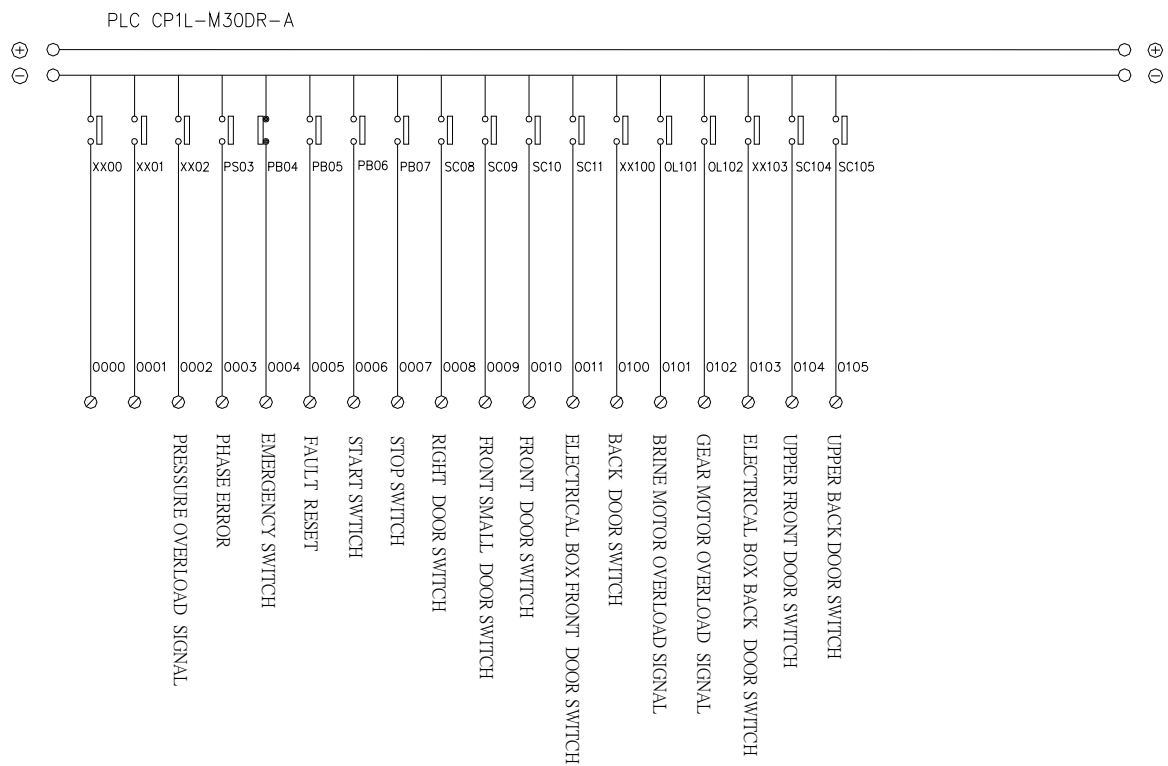
7.6 FAULT MESSAGE (ON THE TOUCH SCREEN EXPLANATION CHART

PLC RELATED RELAY NUMBER	EXPLANATION OF FAULT MESSAGE
W2602	BRINE TANK LOWER WATER LEVEL
W2603	PHASE ERROR
W2604	EMERGENCY BUTTON ON
W2608	FRONT DOOR OPEN
W2609	REAR DOOR OPEN
W2610	LEFT DOOR OPEN
W2611	RIGHT DOOR OPEN
W2612	PLC LOW Battery
W2700	BRINE TANK COVER ERROR
W2701	M1 BRINE MOTOR OVERLOAD
W2702	M2 GEAR MOTOR OVERLOAD
W2704	UPPER LEFT DOOR OPEN
W2705	UPPER RIGHT DOOR OPEN
H200	DOOR SAFETY OFF

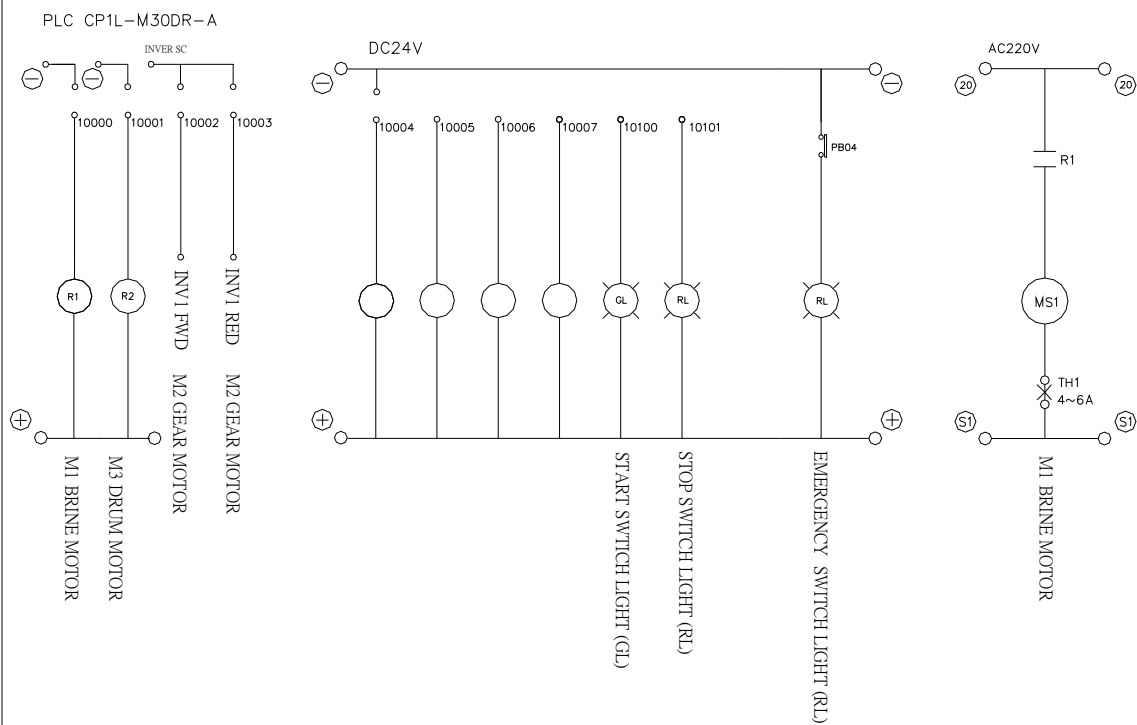
8. Electric diagram and introduction



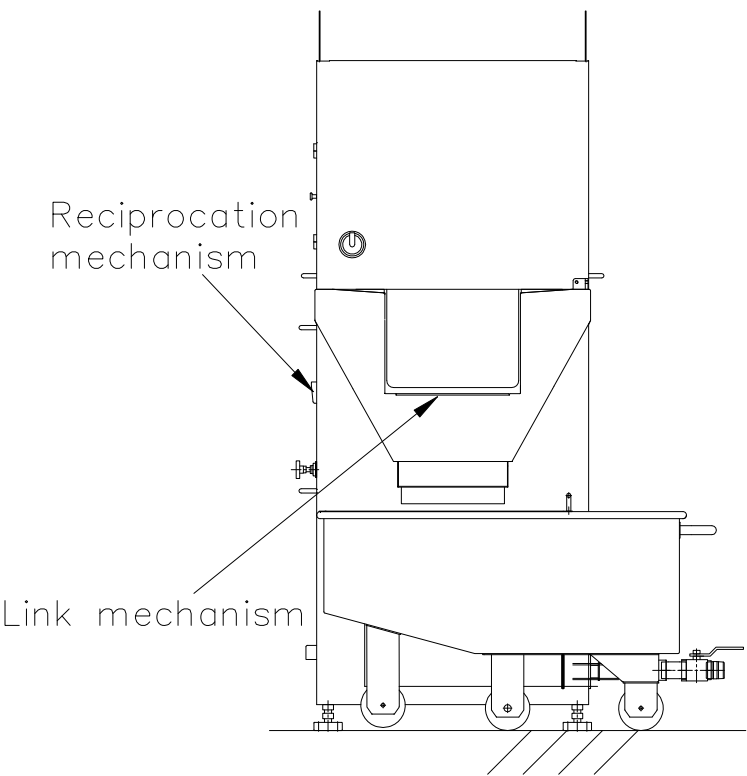
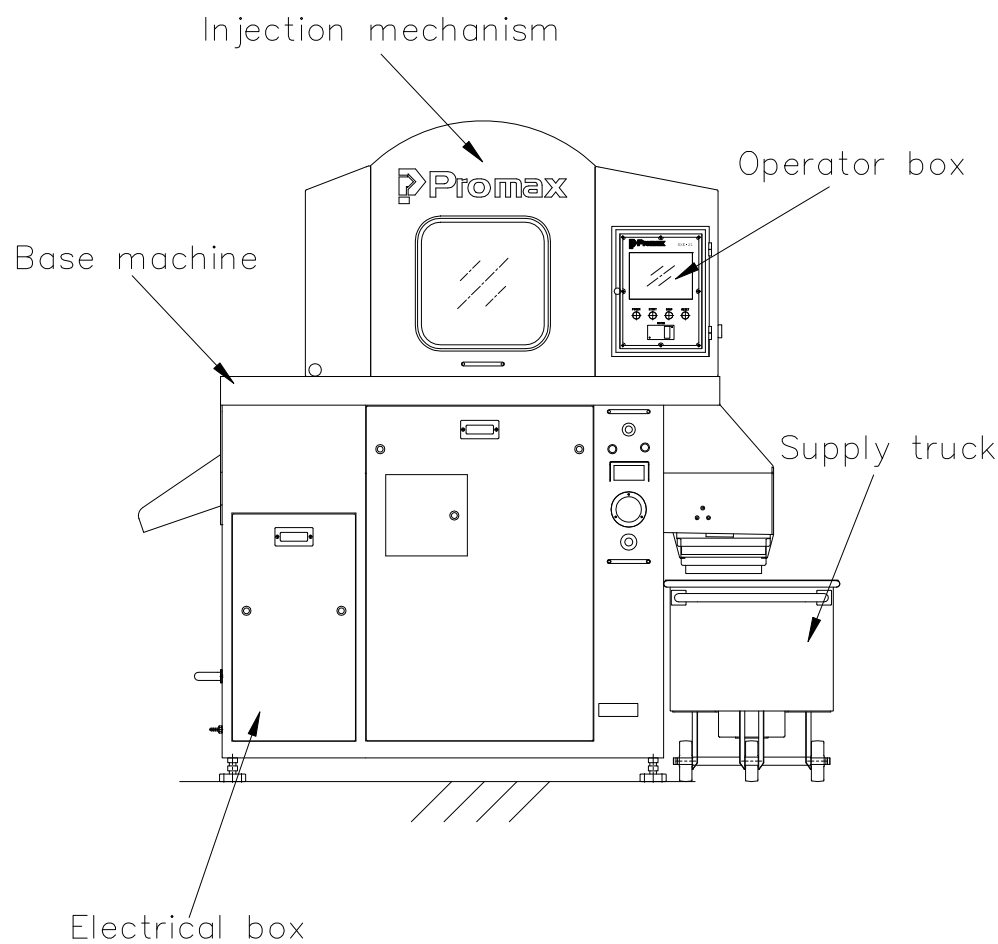
Input wiring diagram



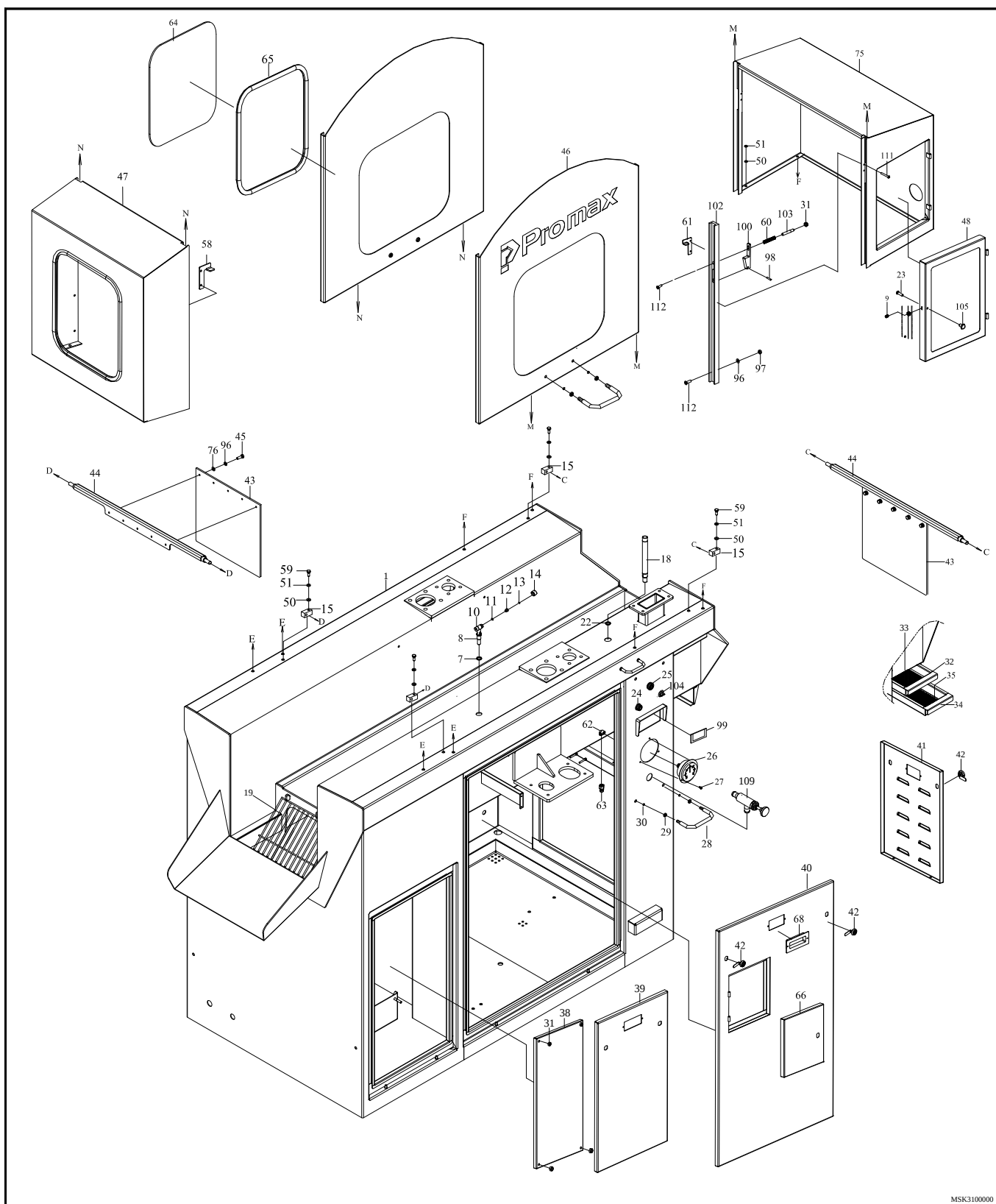
Output wiring diagram



9. Fabrication

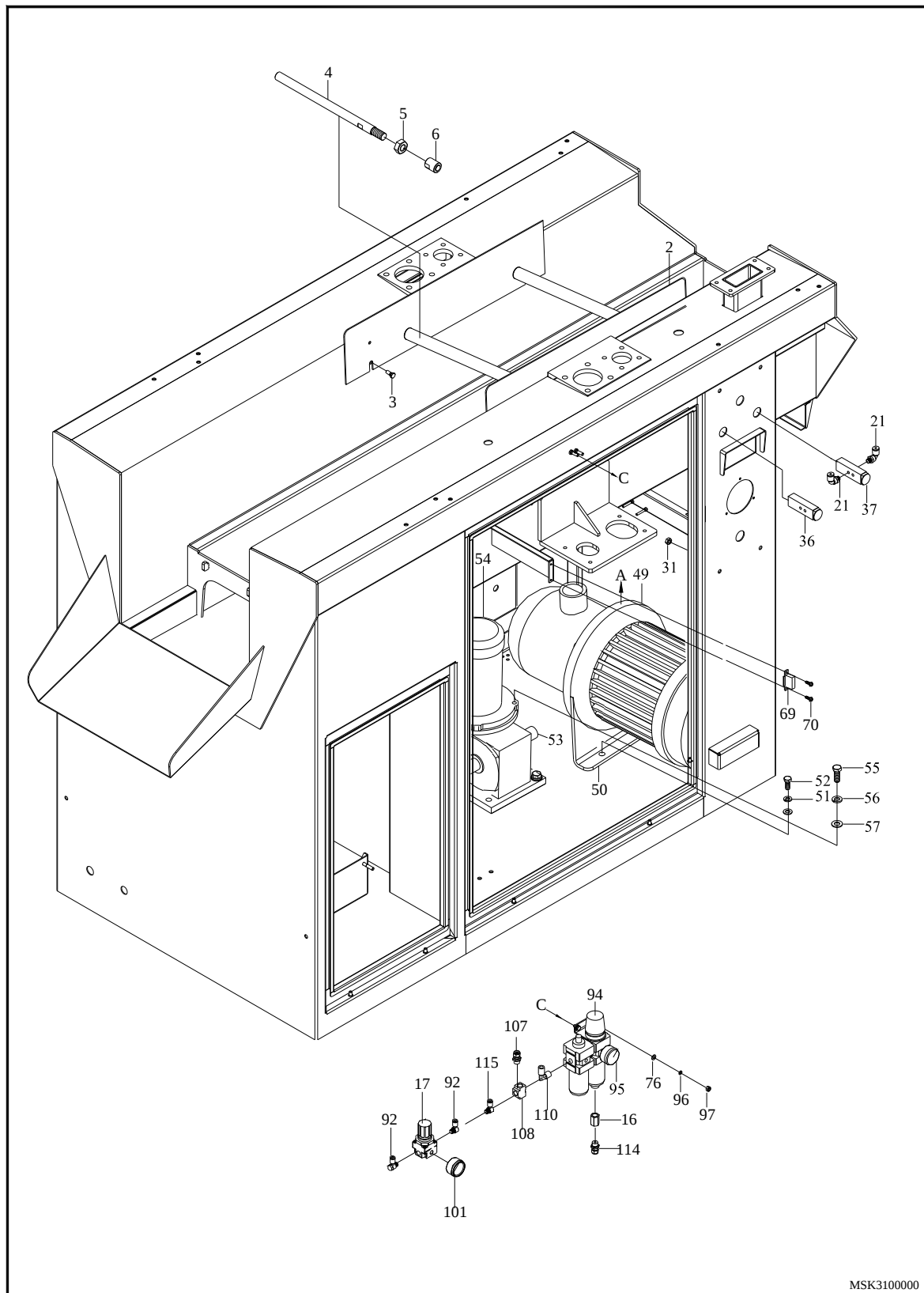


9.1 BASE MACHINE



MSK3100000

9.1 BASE MACHINE



9.1 BASE MACHINE



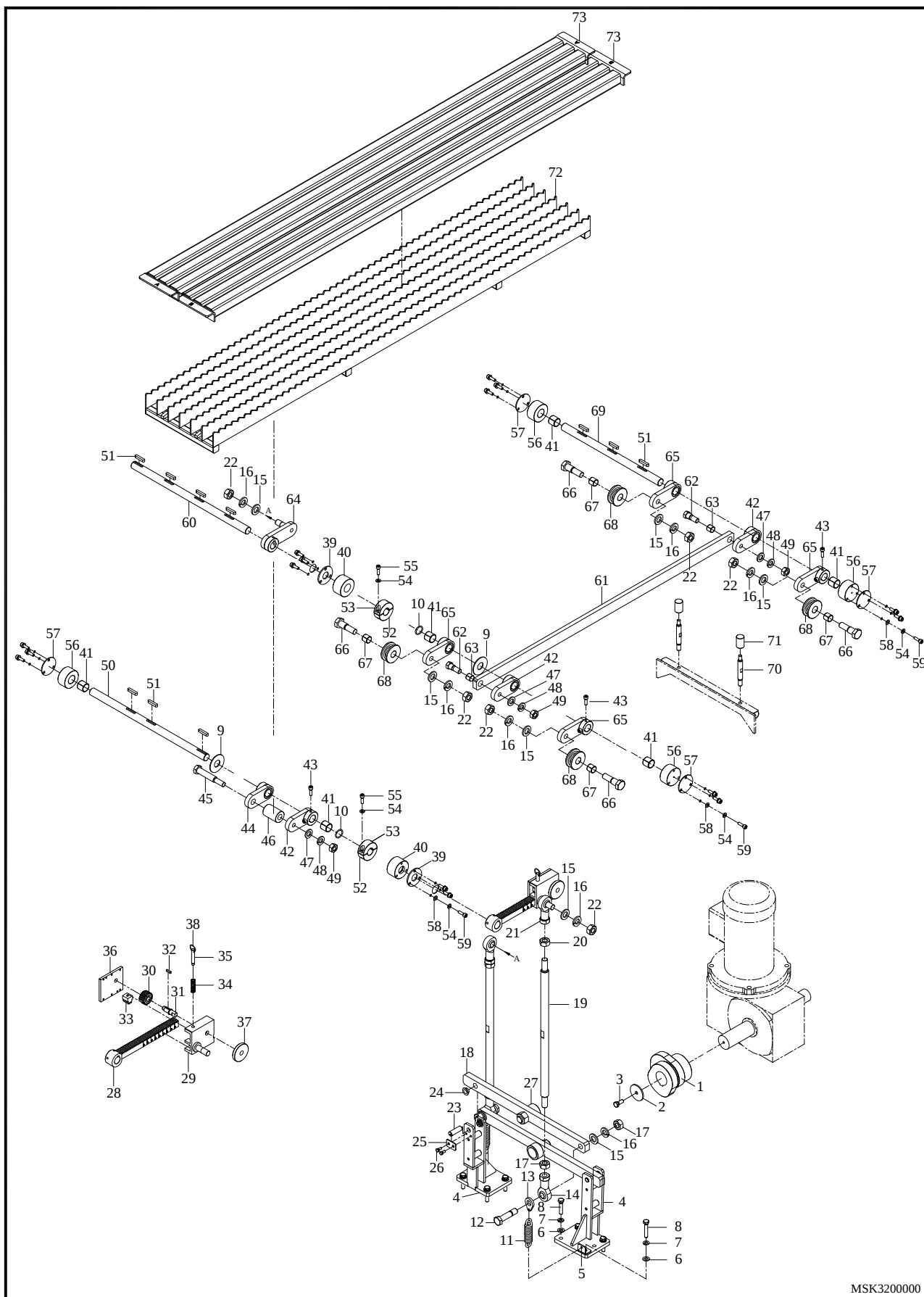
NO.	PART NO.	DESCRIPTION	QTY	
1	MSK3101000	Frame	1	
2	MSK4145000	Protection plate	2	
3	MSK4148000	Screw shaft Positioning plate, H10x18, F/MSK-32	4	
4	MSK3146000	Rod , Width Adjustment, F/MSK-32	2	
5	27070126	Nut, hex M18x2.5 (S)	5	
6	MSK4147000	Nut Width Adjustment rod, F/MSK-32	2	
7	MSK4144000	Spacer $\varnothing 25 \times 3$	2	
8	MSK4141011	Shaft Needle Cleaner air blow F/MSK	1	
9	2701809	Setting ball M8x1.25	1	
10	MSK4141000	Cleaner needle air blow , T-shape , F/MSK	1	
11	2740199	O-Ring P9 (FPM.V.T)	2	
12	MSK4142000	O-Ring holder	2	
13	2740149	O-Ring P4 (FPM.V.T)	2	
14	MSK4143000	Cover	2	
15	MSK2164001	Base , Shaft Curtain, F/MSK-32	4	
16	2909172	Fitting, Copper P-52 1/4"x1/4"	1	
17	29100052	Regulator SMC AR20-02H-B	1	
18	MSK2163001	Air tube mount	1	
19	MSK3119000	Export net	1	
20	2705155	Washer, flat M14 (S)	1	
21	29093211	Fitting JPL 8-02	4	
22	MSK4168000	Tube mount washer	1	
23	2701501	Screw, oval hd M6x12 (S)	1	
24	2933094	Valve, Mechanical MVMB-220-3PP-22	1	
25	2870205	Switch, illuminated mushroom AVLW43311-R 24V	1	
26	2910577	Pressure gauge	1	
27	2701503	Screw, oval hd M5x12 (S)	3	
28	MSK2606000	Handle, Protective F/MSK-32/56/98S	4	
29	MSK4607000	Ring, Protective Handle	8	
30	27401570	O-Ring P8 (FPM.V.T)	8	
31	2707203	Nut, ST. M8	16	
32	MSK3102000	Drawer(Big),Frame	1	
33	MSK3103000	Mesh Filter Big	1	
34	MSK3104000	Drawer(Small),Frame	1	
35	MSK3105000	Mesh Filter Small	1	

NO.	PART NO.	DESCRIPTION	QTY	
36	2933094	Valve,Mechanical MVMB-220-3PP-22	1	
37	2933097	Selectot On/Off Air ,MVMB-220-3TB-22	1	
38	MSK4110001	Panel F/Mounting Components	2	
39	MSK2109011	Door Electrical box	2	
40	MSK2107001	Door Front	1	
41	MSK2106011	Door Side R	1	
42	2883349	Lock door	10	
43	MSK3112000	Plate water Splash guard	2	
44	MSK3117000	Rack Clamping water Splash guard	2	
45	27000362	Screw, hex hd M5x12 (S)	10	
46	MSK2111002	Door Upper cover Front, Promax	2	
47	MSK3160000	Frame Upper left cover	1	
48	MSK2810001	Door Frame Control box	1	
49	2858012	Motor,Brine centrifugal MHI404 220V/380V-60HZ	1	
50	2705301	Spring Washer, ST M8	2	
51	2705331	Spring spacer ST M6	2	
52	2700408	Screw, hex hd M8x20 (S)	2	
53	28143049	Reducer LM-TMW-100-30-V-3	1	
54	2814349	Motor, AEUL 3HP -4P 3ψ/220V	1	
55	27000610	Screw, hex hd M14x20 (S)	8	
56	2705322	Spring Washer ST M14	8	
57	27051541	Washer, M20 (S)	8	
58	MSK2162001	Stoper L-shape Upper door	2	
59	2701179	Screw socket hd M8x35	4	
60	MSK4219000	Spring, Door ,Hinge	4	
61	MSK2161001	Right stop block	2	
62	29091745	Fitting P-7-1 3/8"x1/4"	1	
63	29091741	Fitting, nylon tube A022	1	
64	MSK4113000	Window on door acrylic	3	
65	MSK4115000	Layering waterpro	3	
66	MSK2108010	Door small on panel	1	
67	MSK2121011	Door panel rear Window	1	
68	2883142	Handle door panel K-508	5	
69	2852191	Sensor Magnetic door safety OMRON GLS-1 OMS	6	
70	2703308	Screw, round hd M4x12	12	

NO.	PART NO.	DESCRIPTION	QTY	
71	2856234	Thermocouple brine temp- sensor	1	
72	MSK4118001	Plate holding brine connector	2	
73	2702216	Screw,flat philips M6x8 (S)	4	
74	MSK3154000	Bumper gardard	1	
75	MSK3155000	Cover up-frame,right	1	
76	2705151	Washer, flat M6 (S)	8	
77	2909220	Adapter with threaded on the end IDF-016 1-1/2"x1-1/4"	1	
78	2909188	Gasket brine connector IDF-017 1-1/2"	6	
79	2909189	Clamp brine connector band IDF-015 1-1/2"	9	
80	2740006Z	Elbow L-type inner thread 1/4"	1	
81	29310178	Clamp hose 1-1/2	3	
82	MSK4175001	Elbow input soft tube 1-1/2"	2	
83	MSK4151001	Fitting brine pressure gauge	1	
84	29091742	Fitting XL-802	1	
85	2909222	Elbow brine IDF-020 1-1/2"	2	
86	2909190	Tee brine 3-way IDF-022 1-1/2x1-1/2x1-1/2	2	
87	MSK5173001	Hose brine adjust soft tube 1-1/2	1	
88	2909207	Connector F/Sensor thrmocouple brine IDF-016 1-1/2"x1-1/2"	1	
89	27M82533	Leg pad	4	
90	MSK4901000	Fitting air inlet	1	
91	2861028	Gland, cable straight connector MG-25A-18G	1	
92	29091742	Elbow fitting 1/4"x5/16N(S)	2	
93	2909187	Tube quick-clamp IDF-016 1-1/2"x1"	1	
94	2910108	Regulator, air main	1	
95	2910550	Gauge pressure 1/8"QPG40-11(Psi& KGF)	1	
96	2705302	Spring washer, stainless steel M6 (S)	8	
97	2707204	Nut, hex hd M6 (S)	2	
98	MSK4172000	Stopper shaft	4	
99	2856230	Display Tempture	1	
100	MSK2158000	Stopper	4	
101	2913502	Switch safety pressure gauge	1	
102	MSK2156001	Fitting	4	
103	MSK2157000	Shaft spring fixed	4	
104	VP800G040	Hose brine pressure 1"	1	

[illegible]

9.2 LINK MECHANISM



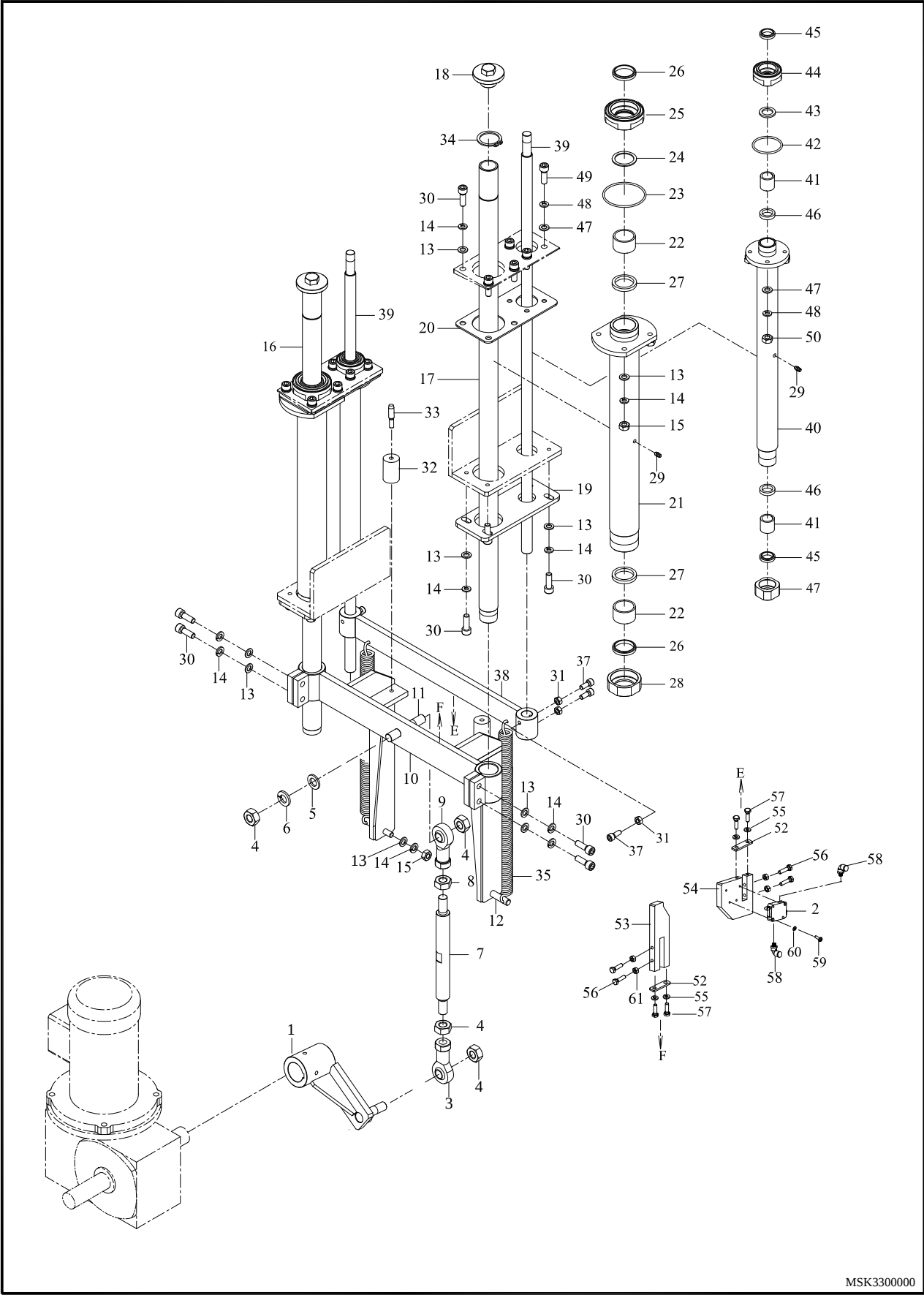
MSK3200000

NO.	PART NO.	DESCRIPTION	QTY	
1	MSK2201001	Cam walking beam	1	
2	MSK4202000	Washer	1	
3	2700415	Screw, hex hd M8x16 (S)	1	
4	MSK2203001	Guide block	2	
5	MSK2204000	Plank	3	
6	2705152	Washer,flat M8 (S)	10	
7	2705301	Spring washer M8 (S)	10	
8	2700420	Screw, hex hd M8x40 (S)	8	
9	MSK3247000	Spacer	1	
10	27401563	O-ring P20	2	
11	10096-2S	Tension spring	1	
12	MSK4207000	Shaft	2	
13	MSK4209000	Hanger, spring	3	
14	2728439	Bearing rod eye, PHS M14x2 R (S)	2	
15	2705155	Washer,flat M14 (S)	8	
16	2705322	Spring Washer M14 (S)	8	
17	2707218	Nut, hex M14x2 R (S)	11	
18	MSK3208000	Arm lifting roller cam conveyor	2	
19	MSK2210001	Shaft rod	2	
20	27070095	Nut, hex M14x2 L (S)	2	
21	2728440	Bearing rod eye, PHS M14x2 L (S)	2	
22	2707122	Nut, hex nylon lock M14x2.0 (S)	4	
23	MSK2205000	Shaft	2	
24	27283121	Bearing, oilless BM1212F20	4	
25	MSK4206000	Plate, shaft stop	2	
26	2700401	Screw, hex hd M6x12 (S)	4	
27	2728834	Bearing, cam CF12-1	2	
28	MSK4211001	Rack adjust injecting spacing	1	
29	MSK4212001	Rack set bracket	1	
30	MSK4213000	Gear M1.5x20T	1	
31	MSK4214001	Gear shaft	1	
32	MSK4249000	Key 4x4x12	1	
33	MSK4217000	Rack, position lock	1	
34	MSK4219000	Spring, lock and unlock position rack set	1	
35	MSK4218000	Pin handle release and lock	1	

NO.	PART NO.	DESCRIPTION	QTY	
36	MSK4215000	Plate F/rack assembly	1	
37	MSK4216000	Wheel adjust rack	1	
38	MSK4423030	Ring	1	
39	MSK4227000	Washer	2	
40	MSK4228000	Housing, bearing	2	
41	2728309	Bearing, dry BM2020	6	
42	MSK4224000	Arm	2	
43	2701195	Screw socket hd M6x10 (S)	18	
44	MSK4223001	Arm	1	
45	MSK4225000	Roller shaft	1	
46	MSK4226000	Roller	1	
47	2705137	Washer, flat M12 (S)	3	
48	2705305	Split lock washer M12 (S)	3	
49	2707209	Nut, ST. M12 (S)	3	
50	MSK3222000	Shaft beam feed	1	
51	MSK4250000	Key 6x6x32	10	
52	MSK4239000	Plate, shaft stop	2	
53	MSK4238000	Retaining ring	2	
54	2705302	Split lock washer M6 (S)	18	
55	2701152	Hexagon socket head cap bolt M6X16 (S)	4	
56	MSK4229000	House, bearing	4	
57	MSK4231000	Washer	4	
58	2705151	Washer, flat M6 (S)	18	
59	2701153	Hexagon socket head cap bolt M6X20 (S)	18	
60	MSK3230000	Beam lift shaft	1	
61	MSK4232000	Link	1	
62	MSK2233000	Socket	2	
63	27283141	Bearing, oilless BM1412	2	
64	MSK4221001	Arm	1	
65	MSK2234000	Arm	4	
66	MSK2235000	Socket	4	
67	2728311	Bearing, oilless BM1620	4	
68	MSK4236000	Roller	4	
69	MSK3237000	Beam lift shaft	1	

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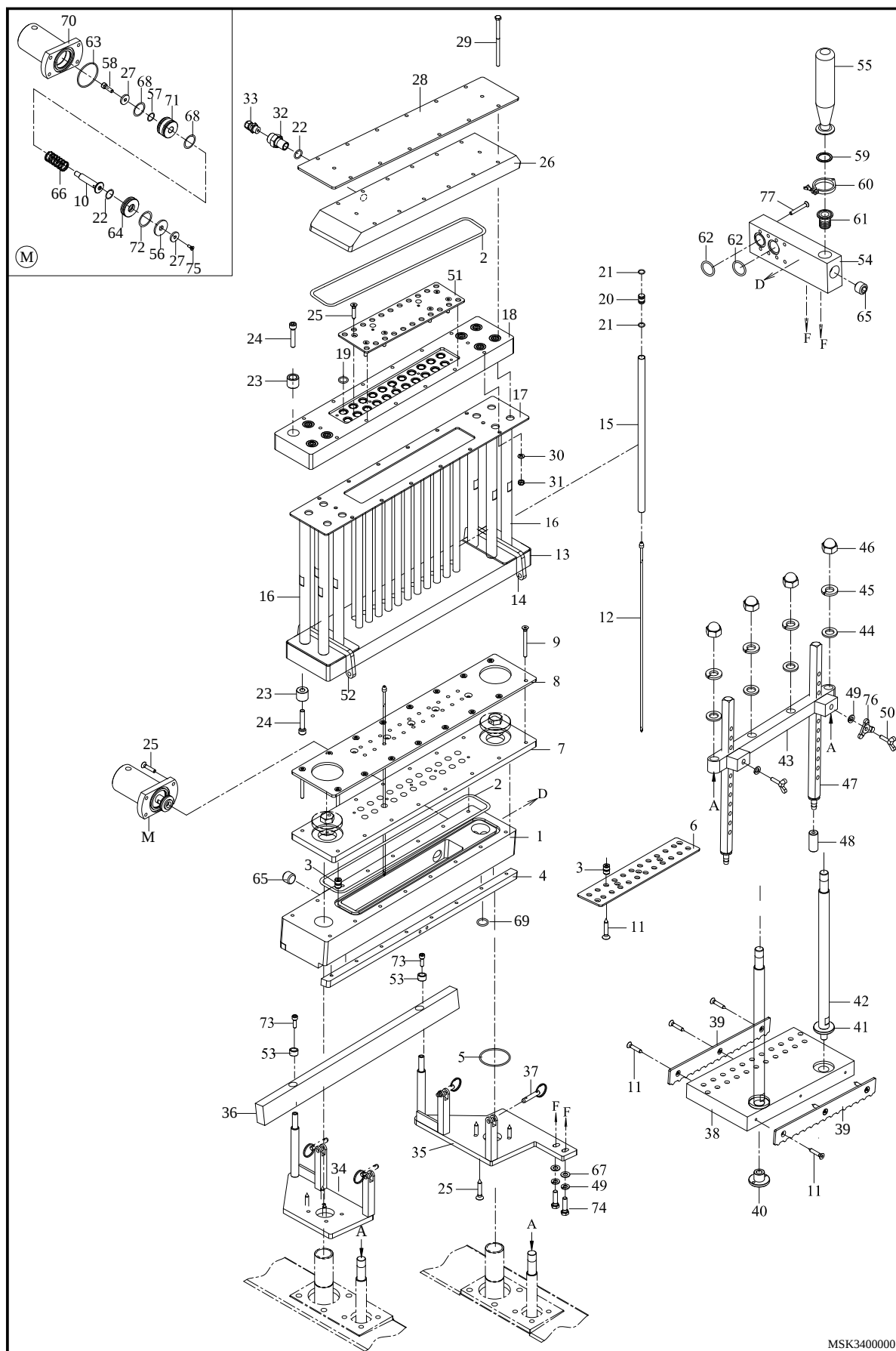
9.3 RECIPROCATION MECHANISM



NO.	PART NO.	DESCRIPTION	QTY	
1	MSK2301002	Arm	1	
2	MSK4903000	Valve,MVMC-210-8A-3R1	1	
3	2728441	Rod eye, PHS M16x2 R (S)	1	
4	27070123	Nut, hex M16x2 R (S)	5	
5	2705329	Washer,flat M16 (S)	2	
6	2705328	Spring washer M16 (S)	2	
7	MSK2303000	Connecting rod	2	
8	2707027	Nut, hex M16x2 L (S)	1	
9	2728442	Rod eye, PHS M16x2 L (S)	1	
10	MSK3304000	Strocke cross beam	1	
11	MSK4306000	Socket	1	
12	MSK4305001	Hexagon nut lid spring threaded rod	2	
13	2705189	Washer,flat M10 (S)	28	
14	2705332	Spring washer M10 (S)	28	
15	2707017	Nut, hex M10 (S)	10	
16	MSK2307002	Towbar	1	
17	MSK2322002	Towbar	1	
18	MSK4308001	Colume pipe	2	
19	MSK2309000	Plate, shaft base	2	
20	MSK2310000	Washer	2	
21	MSK3313000	Colume pipe	2	
22	2730296	Bushing, JUM-02-40	4	
23	27401533	O-ring G60(FPM.V.T)	2	
24	MSK4311000	Spacer	2	
25	MSK4312000	Nut	2	
26	274005221	Oil sealer DH-35(FPM.V.T)	4	
27	274005331	Oil sealer UHS-35(FPM.V.T)	4	
28	MSK4314000	Bushing	2	
29	2740140	Nipple, grease 1/8T	4	
30	27004004	Hexagon socket head cap bolt M10x30 (S)	18	
31	2707203	Nut, hex M8 (S)	10	
32	MSK2438001	Stopper	2	
33	MSK2357000	Stopper fixed shaft	2	
34	2706034	Ring S35	2	
35	MSK2321001	Spring	2	

NO.	PART NO.	DESCRIPTION	QTY	
36	29092081	Clamp rubber hose adapter IDF-033 1"	1	
37	2701156	Hexagon socket head cap bolt M8x20 (S)	6	
38	MSK3320000	Lower column guide	1	
39	MSK4315000	Scraper bar	2	
40	MSK2318001	Bushing	2	
41	2730291	Bushing,JSM-2026-20	4	
42	27401534	O-ring G40(FPM.V.T)	2	
43	MSK4311000	Spacer	2	
44	MSK4317000	Nut	2	
45	274005243	Oil sealer DH-20(FPM.V.T)	4	
46	274005321	Oil sealer UHS-20(FPM.V.T)	4	
47	MSK4319000	Bushing	2	
48	2705152	Washer,flat M8 (S)	8	
49	2705301	Washer M8 (S)	8	
50	2707224	Nut, hex M8 (S)	4	
51	2707203	Nut,hex M8	10	
52	MSK2439001	Touch fixed plate	2	
53	MSK2440001	Touch block	1	
54	MSK2441001	Touch block	1	
55	2705302	Washer,split lock M6 (S)	4	
56	27004011	Screw,hex hd M6x20	4	
57	2700401	Screw,hex hd M6x12	4	
58	29093219	Fitting,tube JPL801	2	
59	2703310	Screw,round hd M4x30	4	
60	2705154	Washer,flat M4 (S)	4	
61	2707204	Nut,hex M6	4	

9.4 INJECTION MECHANISM

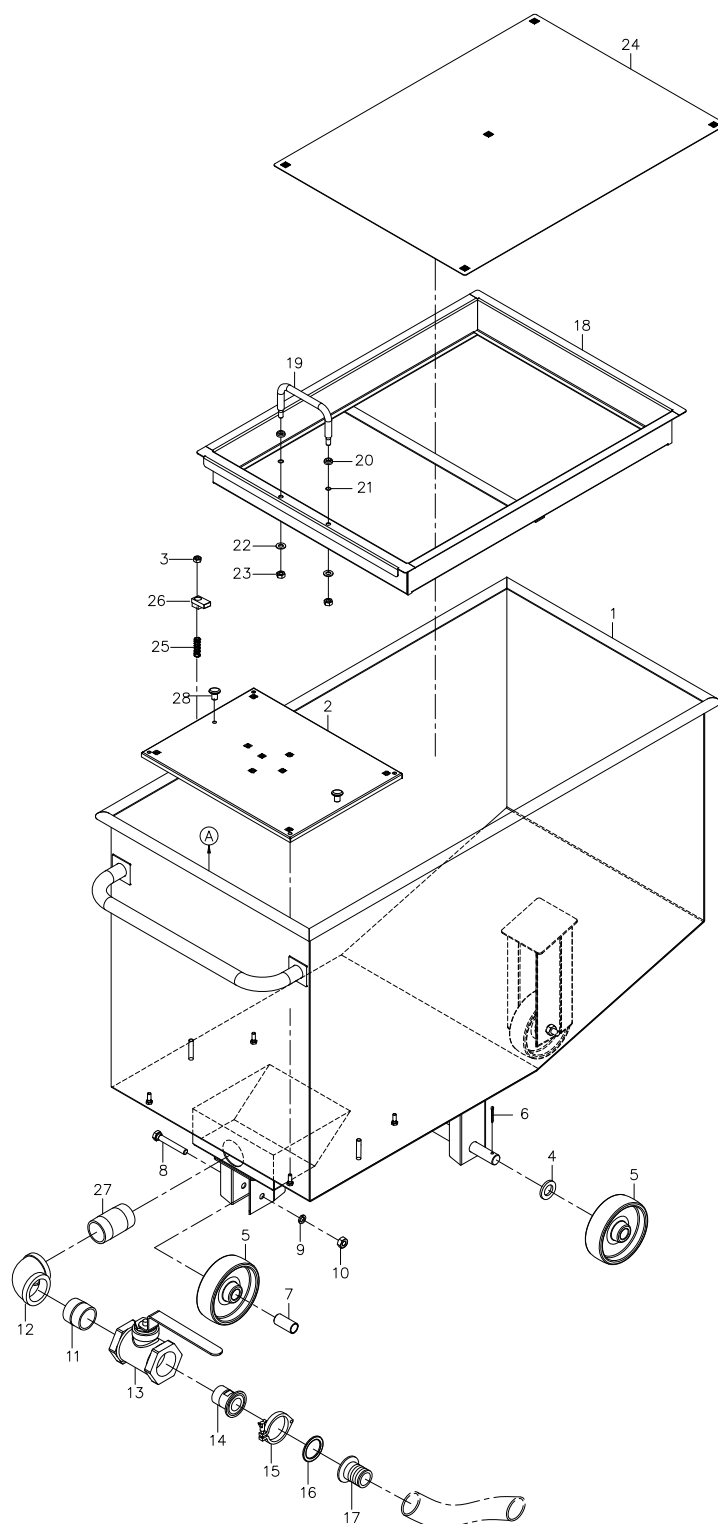


NO.	PART NO.	DESCRIPTION	QTY	
1	MSK3401000	Holder, guider cover	1	
2	27401987	O-ring G280	2	
3	MSK4421A00	Bushing, needle set	64	
4	MSK3406000	Plate	2	
5	27401885	O-ring Ø32	2	
6	MSK3407000	Plate, guider needle	2	
7	MSK3402000	Holder, guider cover	1	
8	MSK3408000	Plate, guider needle	1	
9	2700410	Hex socket hd screw M6x80(S)	16	
10	MSK2444000	Valve, mounting	1	
11	27004116	Screw, flat philip M6x20(S)	32	
12	MSK4461001	Needle(SUS304)	32	
13	MSK3403000	Bracket, mounting tube	1	
14	MSK2413001	Hinge	1	
15	MSK2411000	Mounting tube	32	
16	MSK2415000	Post	8	
17	MSK3419000	Pad	1	
18	MSK3404000	Plate, mounting tube	1	
19	27401574	O-ring P13	32	
20	MSK4412000	Piston	32	
21	27401582	O-ring Ø2xØ8	64	
22	27401573	O-ring P16	2	
23	MSK4414000	Bushing	16	
24	2701157	Hex.socket head cap bolt M8x40(S)	16	
25	27004114	Screw, flat philip M6x30(S)	12	
26	MSK3405000	Plate	1	
27	MSK2446000	Touch plate	1	
28	MSK3410000	Plate, cover	1	
29	27004102	Screw, hex hd M6x90 (S)	12	
30	2705302	Washer, split lock M6 (S)	14	
31	2707110	Nut, hex nylon lock M6 (S)	12	
32	MSK4420000	Fitting	1	
33	29090429	Fitting, nylon tube A-015	1	
34	MSK2416002	Bracket	1	
35	MSK2417003	Bracket	1	

NO.	PART NO.	DESCRIPTION	QTY	
36	MSK3418010	Spacer, needle	1	
37	MSK4423000	Pin set	4	
38	MSK3431000	Plate meat	1	
39	MSK3432000	Plate	2	
40	MSK8433000	Plate, nut	2	
41	MSK8434000	Disc	2	
42	MSK5435000	Shaft	2	
43	MSK3436000	Bracket	1	
44	2714118	Washer, flat M16 (S)	4	
45	2705328	Washer, split lock M16 (S)	4	
46	27071104	Acorn nut M16 (S)	4	
47	MSK2437000	Support	2	
48	MSK2438001	Files block	2	
49	2705301	Washer, split lock M8 (S)	4	
50	2704957	Screw, butterfly type M8x30 (S)	2	
51	MSK3409000	Bracket, mounting	1	
52	MSK2414001	Hinge	1	
53	MSK2418020	Bushing	2	
54	MSK2425002	Store press fixed mount	1	
55	MSK3426000	Store press bottle	1	
56	MSK2445000	Pad	1	
57	27401568	O-ring P12	1	
58	2701153	Hex socket hd screw M6x20	1	
59	2909188	Gasket IDF-017 1-1/2"	1	
60	2909189	Heavy duty single pin ciamp IDF-015 1-1/2"	1	
61	2909224	Adapter with threaded on the end IDF-016 1-1/2"x3/4"	1	
62	27401541	O-ring G25	2	
63	27401569	O-ring P45	2	
64	MSK2443000	Side cover	1	
65	2867298	Cap 3/4"	2	
66	MSK2447000	Spring	1	
67	2705152	Washer, flat M8	4	
68	27401577	O-ring P29	2	
69	27401885	O-ring $\psi 32 \times \psi 4$	2	
70	MSK2442000	Cylinder body	1	

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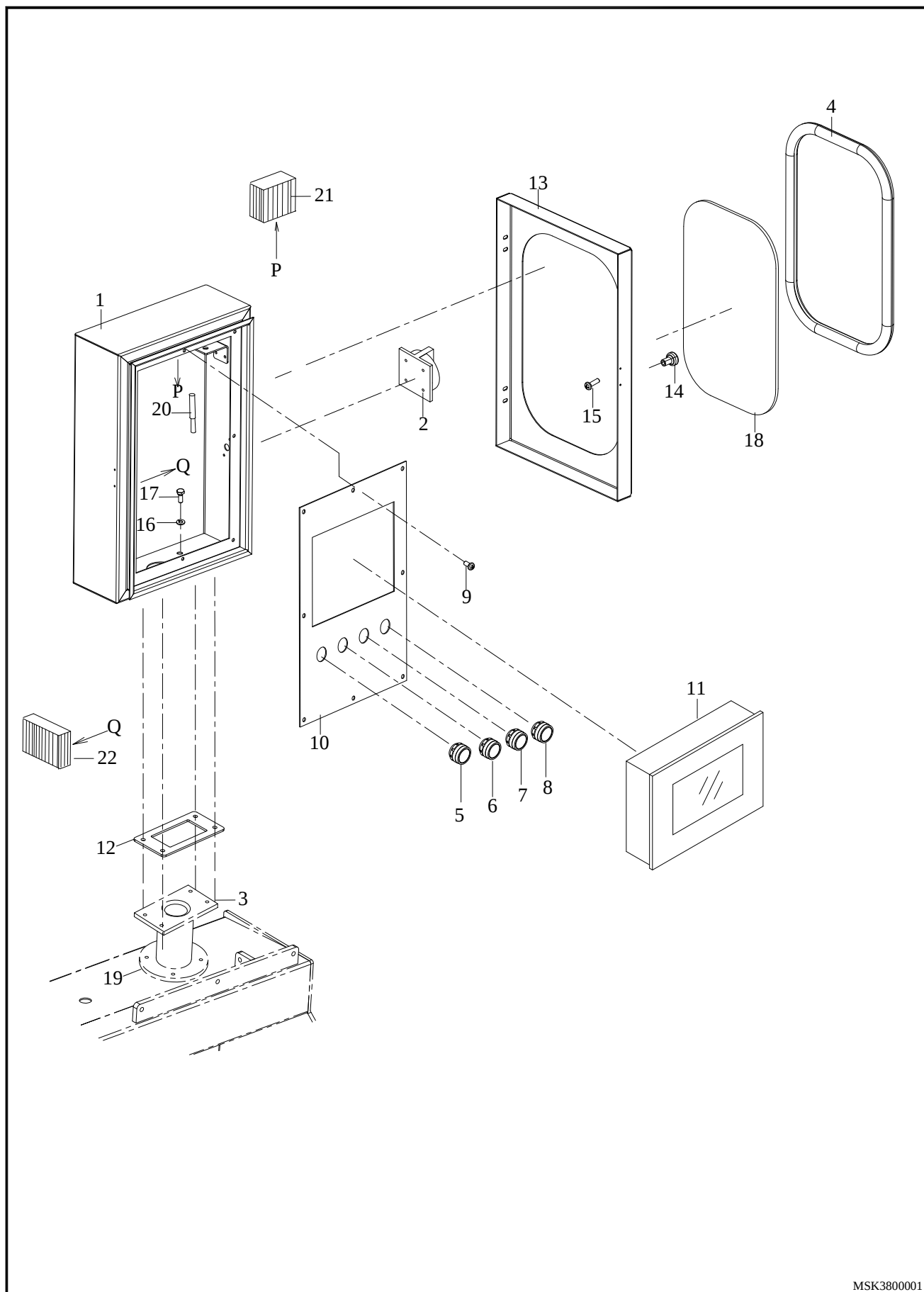
9.5 SUPPLY TRUCK



MSK3600000

NO.	PART NO.	DESCRIPTION	QTY	
1	MSK2601002	Barrel	1	
2	MSK4608001	Sift net	1	
3	27070222	Nut, hex hd M8 (S)	2	
4	2705185	Washer, flat M20 (S)	2	
5	PB20102000	Caster	4	
6	27433227	Pin	2	
7	PB20103000	Bushing	2	
8	274531202	Screw, hex hd M10x60 (S)	2	
9	2705304	Washer, split lock M10 (S)	2	
10	2707017	Nut, hex hd M10 (S)	2	
11	2909218	Nipple 1-1/2"x5cm	1	
12	2909217	Elbow 90°L 1-1/2"	1	
13	2909206	Valve 1-1/2"	1	
14	2909207	Adapter with threaded on the end IDF-016 1-1/2"x1-1/2"	1	
15	2909189	Heavy duty single pin ciamp IDF-015 1-1/2"	1	
16	2909188	Gasket IDF-017 1-1/2"	1	
17	MSK4175000	Clamp rubber hose adapter IDF-033 1-1/2"	1	
18	MSK4605000	Frame	1	
19	MSK2606000	Handle	1	
20	MSK4607000	Noose	2	
21	27401570	O-Ring P8 (FPM.V.T)	2	
22	2705301	Washer, flat M8 (S)	2	
23	2707203	Nut, hex hd M8 (S)	2	
24	MSK4616000	Sift net	1	
25	MSK4219000	Spring	2	
26	MSK2618000	Press block	2	
27	290921821	Nipple 1-1/2"x12cm	1	
28	MSK2617000	Handle	2	

9.6 OPERATOR BOX

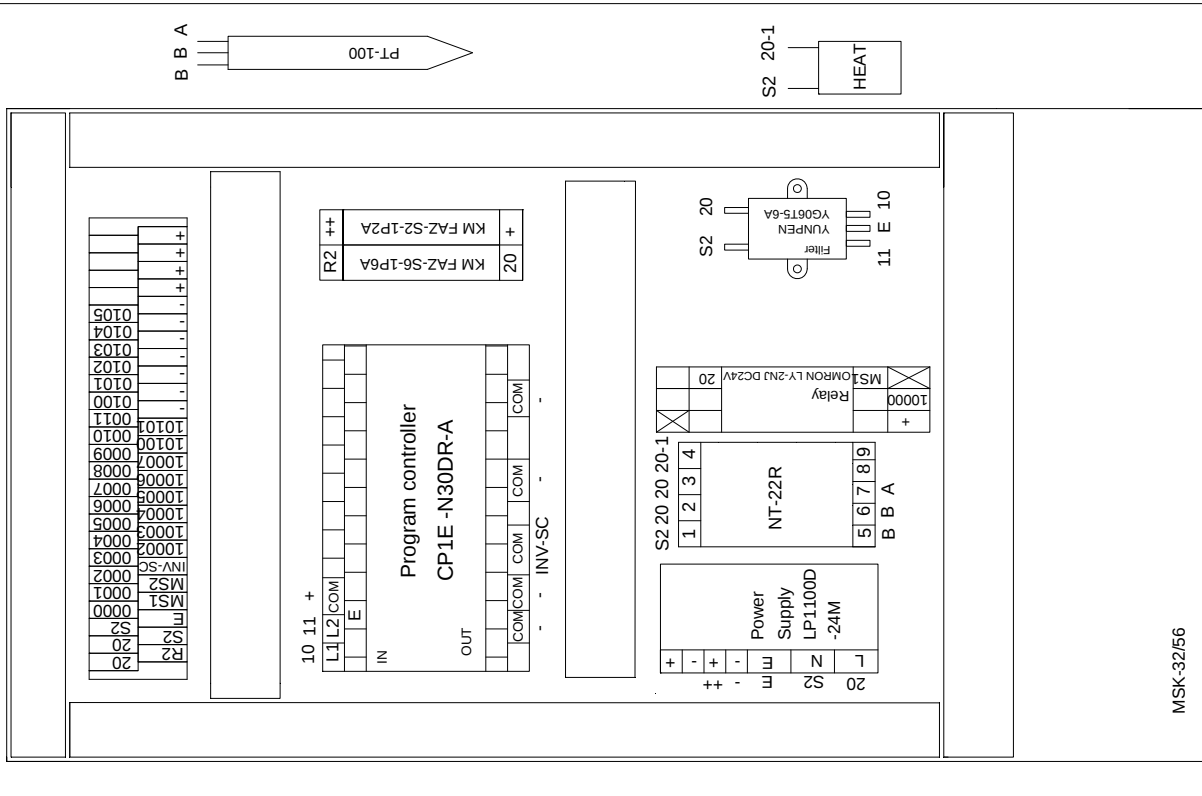


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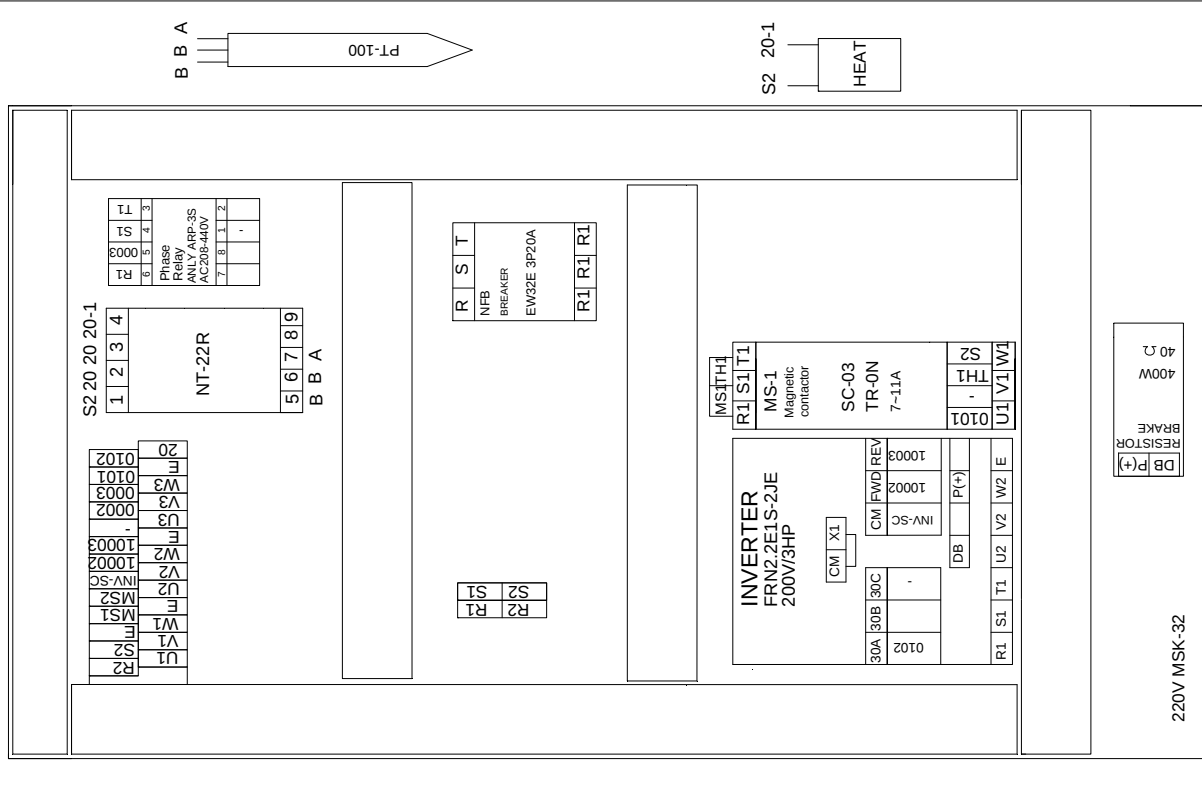
NO.	PART NO.	DESCRIPTION	QTY	NOTE
1	MSK3801000	Operator box	1	
2	28017051	Switch MOELLER P1-32/EA/SVB/SW	1	
3	MSK3806000	Support arm mount	1	
4	MSK3803030	Gasket	1	
5	2871740	Indicator lamp, white TE ZB4-BV01	1	
	2871748	Body, indicator lamp TE ZB4-BV6	1	
	2871752	bulb TE DL1-CF220	1	
6	2871761	illuminated pushbutton head TE ZB4-BW33	1	
	2871748	Body, indicator lamp TE ZB4-BV6	1	
	28704981	bulb AB-9G-DC24V LED24V	1	
	2871737	circuit breaker	8	
7	2871762	illuminated pushbutton head	1	
	2871748	Body, indicator lamp TE ZB4-BV6	1	
	28704984	bulb AB-9R-DC24V LED24V	1	
	2871732	circuit breaker	1	
8	2871704	Button TE ZB4-BA5	1	
	2871732	Switch, contact TE ZB4-BZ101	1	
9	2703332	Screw, round hd M6x10	4	
10	MSK3802000	control fixed plate	1	
11	2827042	Human interface	1	
12	MSK3807000	Washer	1	
13	MSK3803000	Operator plate cover	1	
14	MSK2617000	Handle	1	
15	2701501	Screw, round hd M6x12	1	
16	2705313	Split lock washer	1	
17	2700415	Screw, hex hd M8x16	1	
18	MSK3803020	Window	1	
19	MSK3804000	Support arm mount	1	
20	2856228	THERMOCOUPLE	1	
21	28560224	HEATER	1	
22	2827307	CONTROLLER ,TEMP, NT-22R	1	

9.7 ELECTRICAL BOX

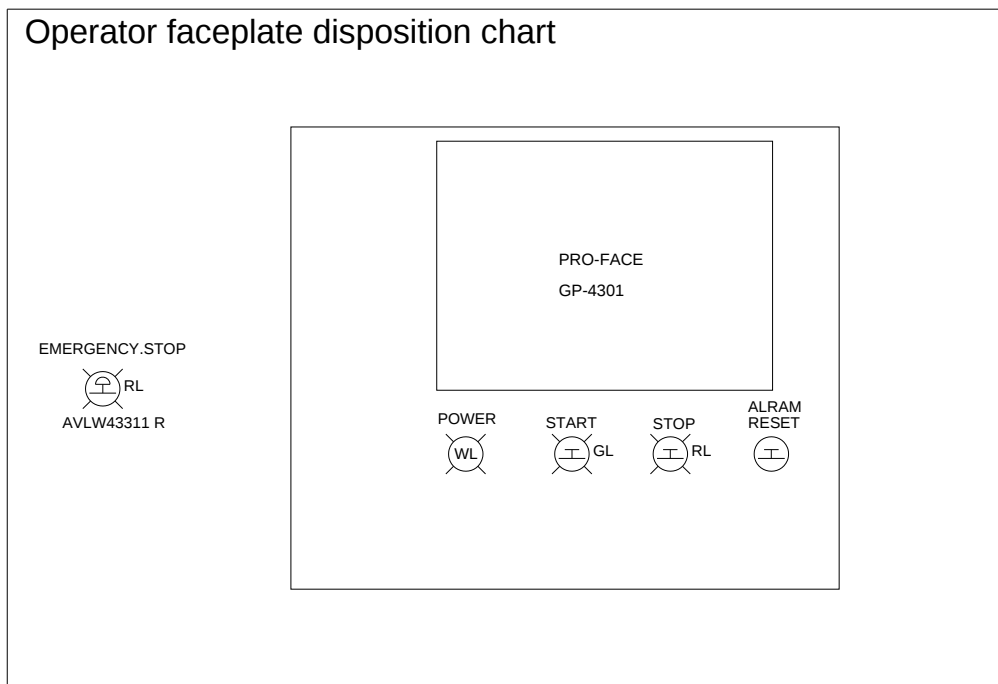
Material disposition chart 1



Material disposition chart 2



9.7 ELECTRICAL BOX



NO.	PART NO.	DESCRIPTION	SPECIFICATION	Q'TY	NOTE
1	2801822	Switch	KM FAZ-S2 1P2A	1	
2	2801825	Switch	KM FAZ-S6 1P6A	1	
3	28020106	CIRCUIT BREAKER	EW32EAG 3P20A	1	
4	28050463	Inverter	FRN 2.2E1S-2JE 200V/3HP	1	
5	2810218	Relay	SC-03 3a1b 220V	2	
6	2811193	RELAY,THERMAL	FUJI TRON 7-11A	1	
7	28201004	PLC	CP1E-N30DR-A	1	
8	2843202	Terminal, block	PTU-20L	1	
9	2830110	Relay	OMRON LY-2NJ DC24V	1	
	2831204	relay base	STF-08AM	1	
10	2830154	Relay	ANLY APR-3S	1	
11	2843201	Terminal, block	PTU-20	25	
12	2843204	Terminal, block	PUW-20	27	
13	2843205	Terminal, block	PTU-30	4	
14	2895103	Socket	WK3001K	1	
15	2896107	Filter, wave	YUNPEN YG06T5-6A	1	
16	2896530-8	Supply, power	ACRO TR-AD1072-24F	1	
17	2827307	CONTROLLER	TEMP,NT-22R	3	
18	2856228	HEATER	TS-2-PT-5-20-M8-PVC-2M	4	
19	28560224	CONTROLLER	TEMP, F/ST-10	3	

10. Packing List

NO.	PART NO.	DESCRIPTION	QTY	NOTE
1	@MSK-32	MSK-32 brine injector	1	
2	MSK3601000	Brine vessel	1	
3	MSK2609A00	Agitator	1	Option
4	MSK3111000	Side door	2	
5	MSK3155001	Upper Right door	1	
6	MSK3160001	Upper Left door	1	
7	MSK-32	Brine injector introduction	1	
Vulnerable parts :				
1	2740149	O-ring P4	50	
2	27401582	O-ring ϕ 2x ψ 8	50	
3	27401569	O-ring P45	1	
4	27401885	O-ring ϕ 32x ψ 4	1	
5	274005331	Oil sealer UHS-35(FPM.V.T)	4	
6	274005221	Oil sealer DH-35(FPM.V.T)	4	
7	274005321	Oil sealer UHS-20(FPM.V.T)	4	
8	274005243	Oil sealer DH-20(FPM.V.T)	4	
9	2730290	Bushing JSM-3539-20	4	
10	2730291	Bushing JSM-2026-20	4	
11	MSK4412000	Piston	12	
12	MSK4461001	Needle (include spare 6 pieces)SUS304	50	

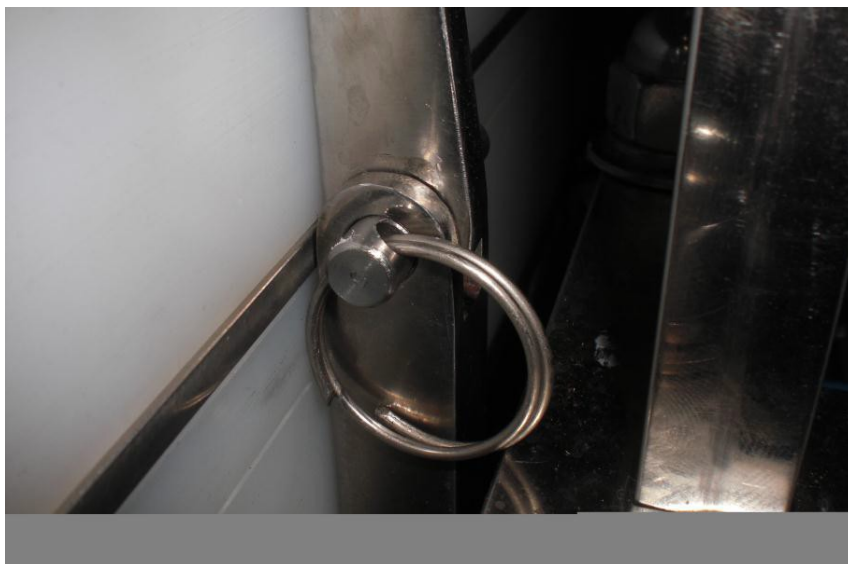
11. Needle Cleaning and Lubrication Procedure

Caution/Alert

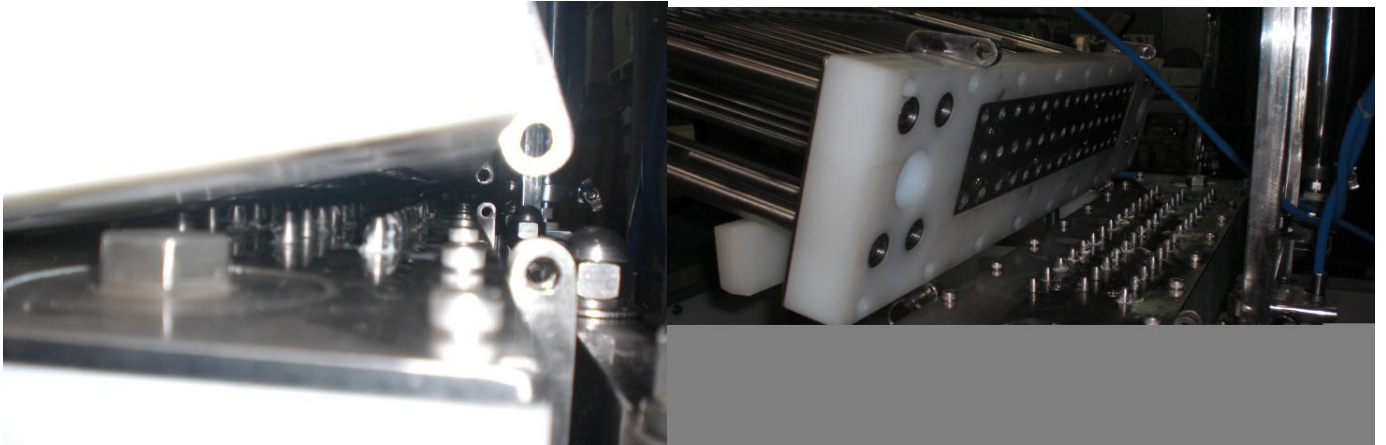
Step 1 – Turn “Needle Air” switch to off position.



Step 2 – Locate Push pins. Remove the two pins on the head, on the in-feed side.



Step 3 – Carefully open the head, only enough to verify all needles are in the down position.
if any needles are still in the raised position in the head, pull them down. Next finish opening the head until it rests on the white resting blocks.



Step 4 – Remove all needles by pulling straight up on the needle tops.



Step 5 – Insert each needle into the needle cleaner and press the “ Needle Clean” button to remove food material from inside the needles.



Step 6 – Before re-installing needles you must apply a thin coat of lube to each needle.



Step 7 – Re-install needles, insuring they are pushed all the way down firmly.



Step 8 – Add a small amount of lube to top tip of needles to lube the upper needle cylinders.



Step 9 – Additionally add a small amount of lube to each piston cylinder



Step 10 – Close head and re-install push pins.



Step 11 – Turn “Needle Air” switch back to “On” position



Note: Never operate machine with the “Needle Air” Switch in the “Off” position or without air connected to the machine.
As this will cause damage to the needles and other components.

12. Water flow Diagram

