LOYNDS INTERNATIONAL MAN-FR189

MINI UNIVERSAL CANDY DEPOSITOR

Operation Manual

MINI UNIVERSAL CANDY DEPOSITOR

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Blackpool
FY4 5DR

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Introduction

A versatile machine that will deposit all the above with ease, we can supply the machine in various configurations with options depending on your product type for: one colour deposit, two separate colour deposit, one main colour with stripes deposit, one colour on top of each other deposit, one colour inside another deposit, outer colour with fat-based centre deposit (two servo motors), We can also supply change parts for multiple products. Whatever the sugar confectionery you want to deposit this machine can most probably deposit it.
HMI & PLC & control gives accurate deposits every time, settings can be changes as the machine is running.
The machine can be built to run with all types of moulds Silicone, Teflon, 3d Lollipop (vertical), 2d Lollipop (horizontal). We can supply change parts so you can run all moulds. we can in some case configure the machine to would with mat type moulds.
An Indexing system operated by push button indexes the moulds under the depositing nozzles to make the deposits. The moulds are then pushed through the machine and removed for cooling/setting and de-moulding.
The machine can be supplies with mould travel rails with or without cooling fans, this means you can leave the moulds on the machine giving time for the products deposited time to set, allowing you to demould direct from the outfeed system.

Health & Safety Requirements

Ensure full personal protective equipment is used whilst operating this machine.

This includes but not limited to.

- Suitable gloves
- Eye protection
- Ear defenders

Operators should wear hearing protection.

Machine surface is hot during operation. Do not touch.

External areas of the machine are marked with ‘Warning: High Voltage’ where there is risk of electric shock.

Wear Safety Eyewear

Ensure that no loose fitting or baggy clothing is worn during the operation of this machine.

Ensure that all operatives comply with their Health & Safety policy.

Ensure that the machine is switched off at the power supply before carrying out any maintenance or cleaning work.

Do not attempt to remove or defeat any guarding on the machine.

Safety Systems

- Hopper guarding to meet CE 12mm diam. Max / 150mm min length limits. These should not be removed.
- Emergency stop buttons located on swing arm.
- Isolator switch fitted on control panel.
- Electrical control panels are accessible only by using a special key held only by maintenance personnel.

Installation and Commissioning Instructions

The Machine should be connected to a **240V / 110v** single phase electrical supply.

All electrical work to connect to a mains power supply should be carried out by a qualified electrician.

The machine weighs:

350Kg

Ensure that the floor on which the machine is mounted is capable of safely bearing the load of the machine and all loads associated with the operation of the machine.

Ensure your machine is mounted on a level surface in a dry environment with adequate space around the machine to allow safe access and operation.

Ensure that all of the necessary electrical connections are installed by a qualified electrician.

Detailed Operation and Use

Basic Principles

WORKING PRINCIPLE: First ensure you have correctly entered all the correct and relevant values into the HMI screens before starting to operate the machine. The Candy is boiled to temperature and is poured into the hopper, when doing normal production press the buttons on both sides of the machine at the same time it then deposits the candy into the moulds, a perfect weight and a perfect deposit, to keep the candy fluid there is an electrically heated oil jacketed hopper that is set to the same temperature as the candy. The mould is placed into the magazine and is pushed into the deposit position under the depositing nozzles by a pneumatic cylinder, once in place the machine makes the deposit into the moulds after the deposit is made the moulds then move forward through the machine as new moulds enter the system, the filled moulds are collected by the operator at the exit end of the machine and are stored while the products set, the deposit is PLC controlled and the weight of the deposits will be more accurate than other candy forming methods, providing the candy is at the correct consistency.
The output of the machine is 30kg per hour, this is dependent on product deposit makeup, example: if just solid or if with stripes or centre fill etc. also the weight of the individual deposits has an effect on the output.
The standard configuration is for the moulds to be fed into the infeed side of the machine, moulds are then pushed and indexed automatically into the depositing position, once the deposit has been made moulds entering the system push the filled moulds down the outfeed channel.

Image Showing buttons required to be depressed to deposit.

COOLING: Cooling times are vary depending on product, hard candy will harden quickly and can be de-moulded quickly, jellies and other softer products may take longer, and the mould may need to stand until the product sets before de-moulding.

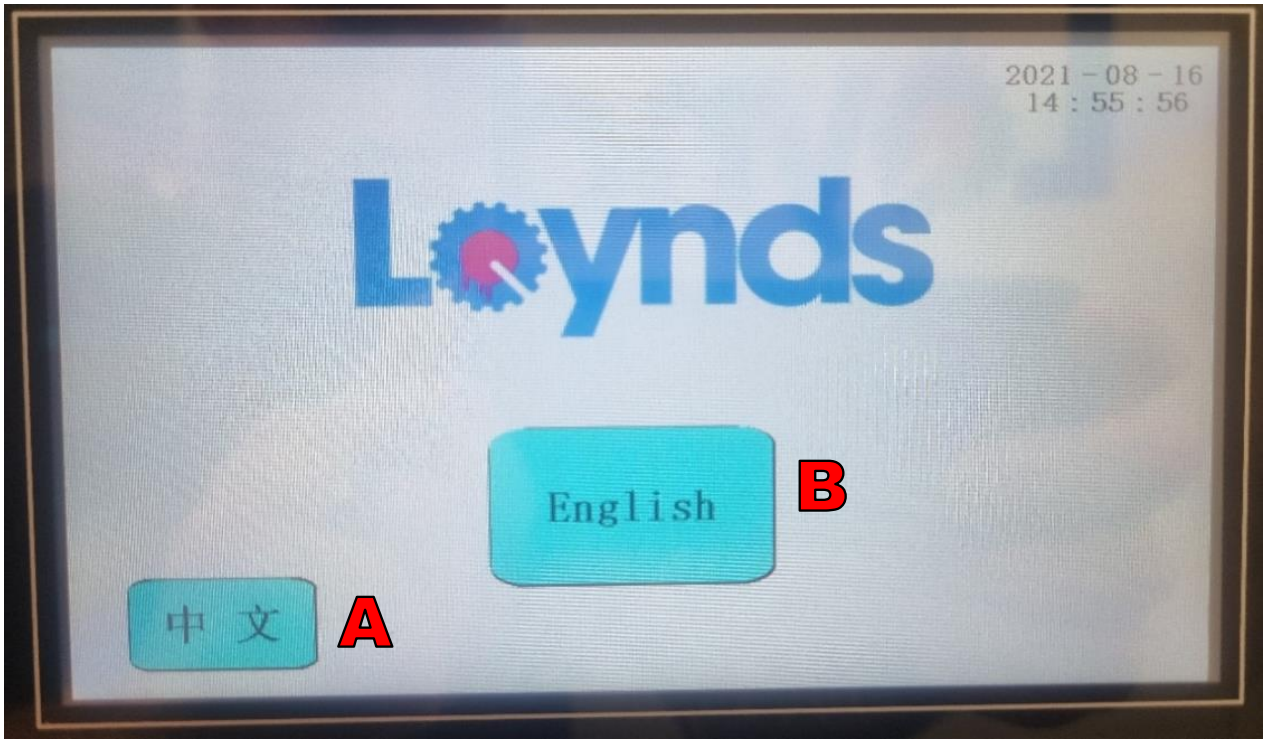
MOULDS: The machine can deposit different kinds of candy and the machine can work with Aluminum Teflon coated moulds, Silicone moulds and if required starch impression moulds. Teflon coated moulds can be in 2d flat form or 3d 2-part hinged form.

DE-MOULDING: De-Moulding is quick & easy, 2D Teflon moulds are pressed downwards so that the ejection pins move upwards, the candies are then free from the cavity, the mould is turned over and the candies fall out. De-Moulding for softer candy that is most deposited in Silicone moulds is slightly different in that the mould is simply pressed inside out, so that the candies are released from the Silicone, they are then cleared from the mould. We can supply a simple tool to assist this process. De-Moulding for the 3D Teflon moulds such as lollipops required that the moulds are opened manually by using two hands, once opened the product then becomes loose and when the mould is turned over the products fall out. Moulds can be put back into the machine for the next deposit as soon as the products are de-moulded for them.

HMI Screens

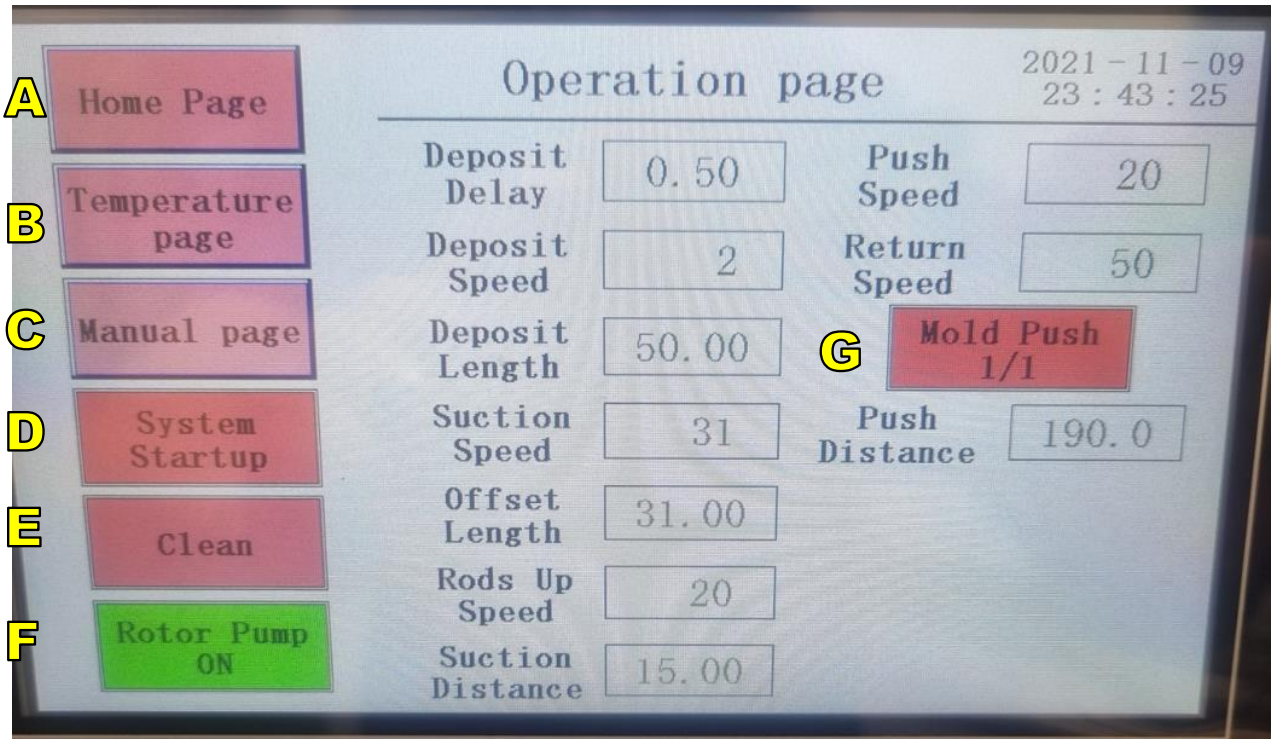
Startup / Home Screen

The home screen allows the user to select either (A) Chinese Language or (B) English Language.



A = CHINESE LANGUAGE
B = ENGLISH LANGUAGE

Operation Screen

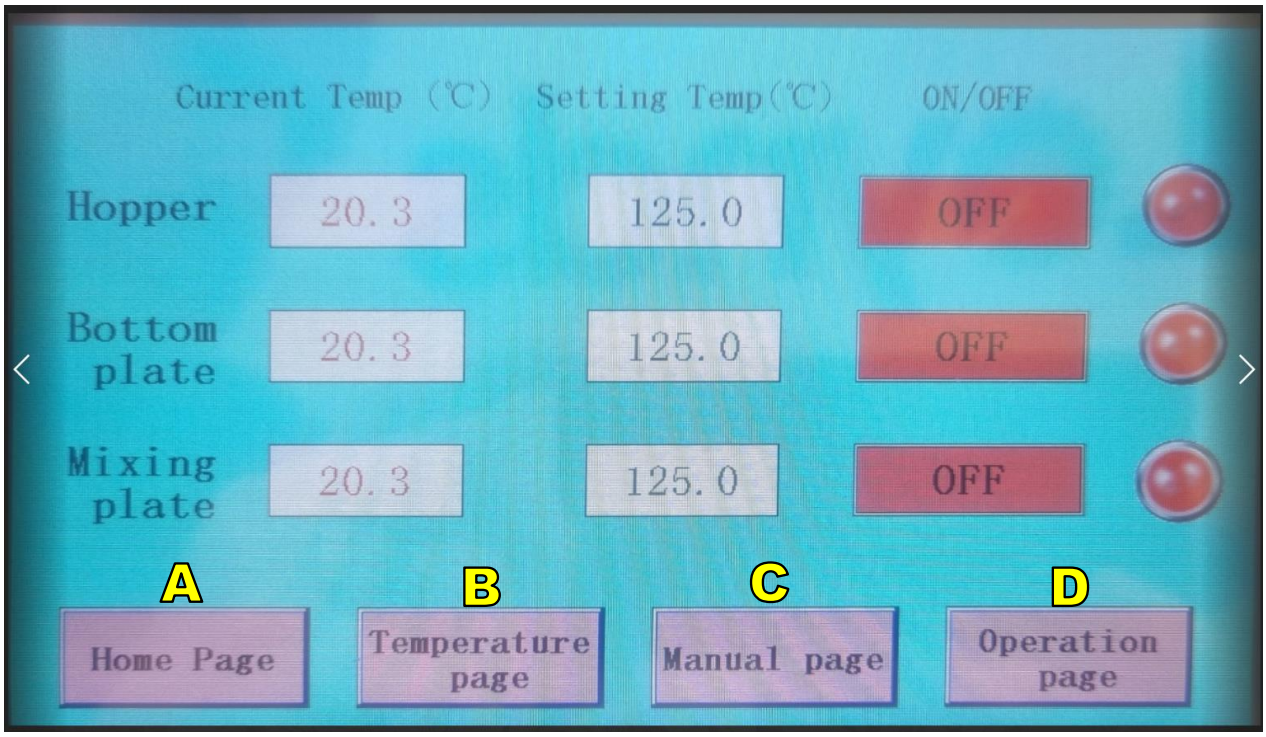


A = RETURN TO HOME SCREEN.
B = ADVANCE TO TEMP. PAGE.
C = ADVANCE TO MANUAL PAGE.
D = SYSTEM START-UP.
E = START CLEANING PROGRAM.
F = PUMP SYSTEM ON/OFF – THIS ENABLES THE PUMP-TO-PUMP PRODUCT TO THE HOPPER(ON SELECTED MODELS ONLY).
F = CHANGES THE MOULD PUSH FOR VARIOUS TYPES OF MOULD (SELECTED MODELS ONLY).

DEPOSIT DELAY = DELAY TIME AFTER DEPOSIT BUTTON PRESSED.
DEPOSIT SPEED = MOTOR SPEED WHEN DEPOSITING.
DEPOSIT LENGTH = CANDY WEIGHT/QUANTITY.
SUCTION SPEED = AFTER DEPOSIT, SPEED CANDY IS SUCKED BACK (ADJUSTS TAILS).
OFFSET LENGTH = SERVO MOTOR POSITION OFFSET FROM ORIGINAL POSITION (ADJUSTS THE HEIGHT OF THE RODS).
RODS UP SPEED = PISTON RETURN SPEED (REDUCE TAIL ON DEPOSIT).
SUCTION DISTANCE = PISTON SUCK BACK SPEED/DISTANCE.

PUSHING SPEED = SPEED MOULD IS PUSHED.
RETURN SPEED = SPEED PUSHER IS RETURNED.
PUSH DISTANCE = DISTANCE MOULD IS PUSHED.

Temperature Screen



A = RETURN TO START UP SCREEN.
B = ADVANCE TO TEMP. SCREEN
C = ADVANCE TO MANUAL SCREEN.
D = RETURN TO OPERATION SCREEN.

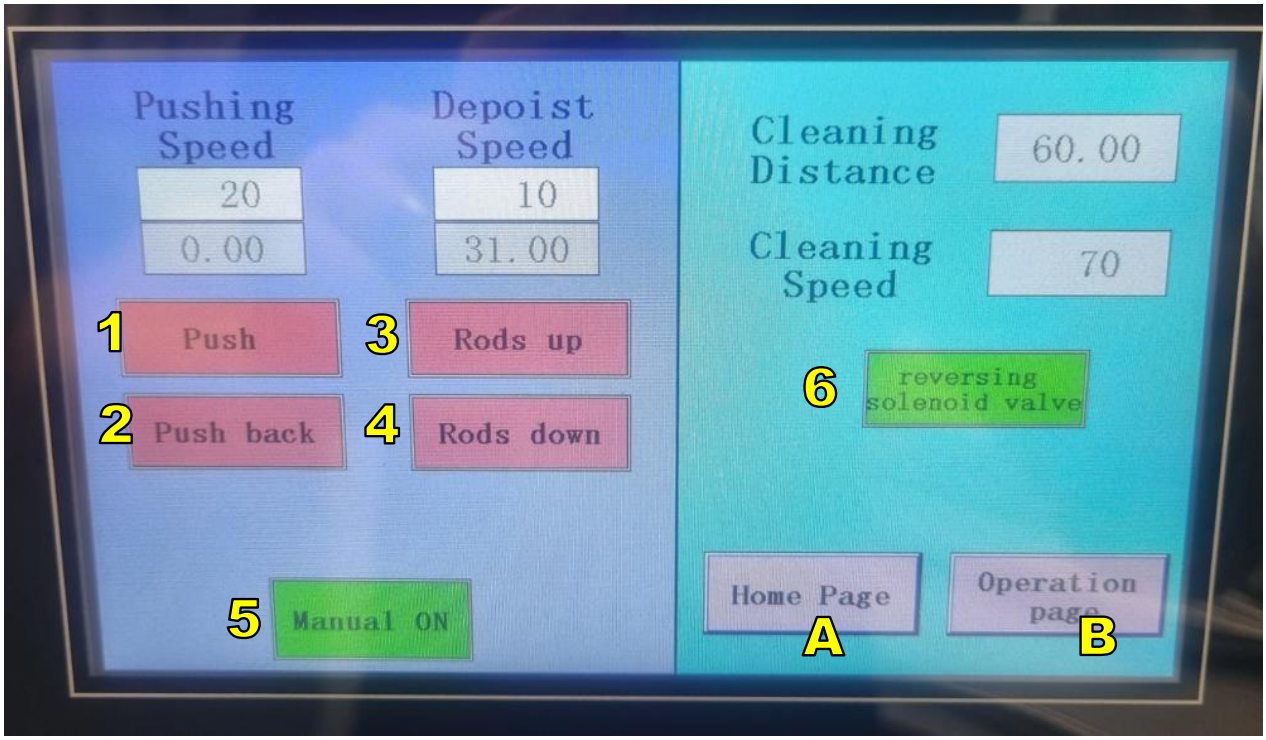
NOTE:
PLEASE HEAT THE HOPPER 30 MINS BEFORE OPERATION.

TEMPERATURE CONTROLS CONSIST OF 3 PARTS:
HOPPER
BOTTOM PLATE
MIXING PLATE

CURRENT TEMPERATURE IS THE DECTECTED TEMPERATURE.
SETTING TEMPERATURE IS THE MANUALLY ENTERED TARGET TEMPERATURE.
SWITCH BUTTON ON/OFF = CONTROLS HEATING FUNCTIONS SEPERATLEY.
RED BUTTON IS THE HEATING INDICATOR THIS WILL TURN GREEN WHEN IN OPERATION.

NOTE: IF EXCESSIVE TEMPERATURE IS NOTICED CHECK TEMPERATURE PROBES ARE LOCATED CORRECTLY

Manual Screen



A = RETURN TO HOME SCREEN.
B = RETURN TO OPERATION SCREEN.

ENTERING THE MANUAL SCREEN WILL ALLOW THE USER TO MANUALLY ADJUST THE MACHINE USING THE USER'S PRESET VALUES.

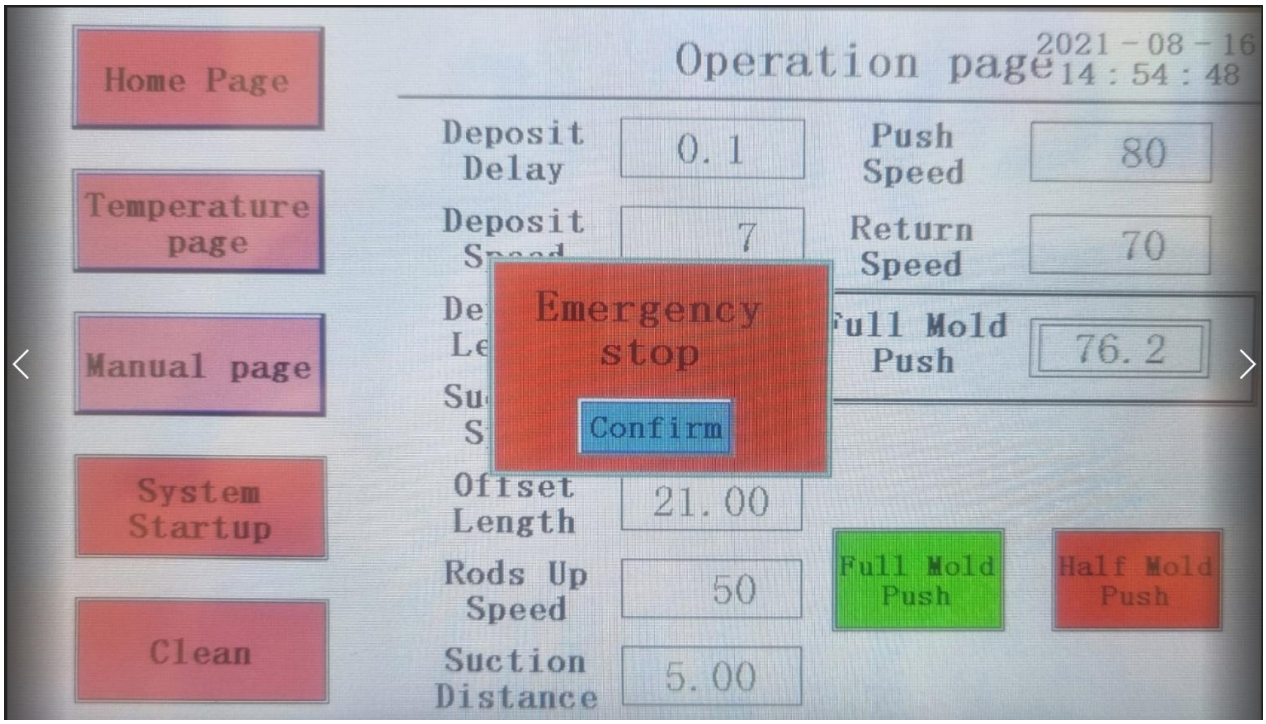
ENTER THE DESIRED VALUES INTO THE WHITE BOXES MARKED (1).

1 - PUSH = CYCLINDER PUSH.
2 -PUSH BACK = CYCLINDER RETURN.
3 – RODS UP = MOVE RODS UPWARDS.
4 – RODS DOWN = MOVE RODS DOWNWARDS.
5 - MANUAL ON/OFF = TURN MANUAL MODE ON/OFF.
6 – REVERSING SOLENOID = ENABLES PUMP RETURN VALVE WHEN IN MANUAL MODE ONLY (PUMP ON SELECTED MODELS ONLY).

CLEANING DISTANCE = DISTANCE SERVO MOTOR MOVES IN CLEANING CYCLE.
CLEANING SPEED = SPEED OF CLEANING CYCLES.

ACTUAL HALF MOLD PUSH = DISTANCE CYCLINDER WILL PUSH.
ACTUAL FULL MOLD PUSH = DISTANCE CYCLINDER WILL PUSH.

Emergency Stop Screen



If you see the Emergency Stop Screen, you must reset the Emergency Stop Switch and press the Reset Button located on the control panel, then press the Confirm Button on the HMI Screen.

Spare Parts

4 x STRAIGHT ROD HEATERS.

3 X U-SHAPED ROD HEATERS.

1 X TEMPERATURE PROBE & HOUSING.

1 X DEPOSITING ROD.

VARIOUS SPRINGS / BALLBEARINGS / COMPRESSION TUBES.

Maintenance and Cleaning Instructions

Before undertaking any maintenance or cleaning work, ensure you have read and fully understood the operations manual.

Before undertaking any maintenance or cleaning work, ensure that the machine is switched off at the power source.

See Detailed information below.

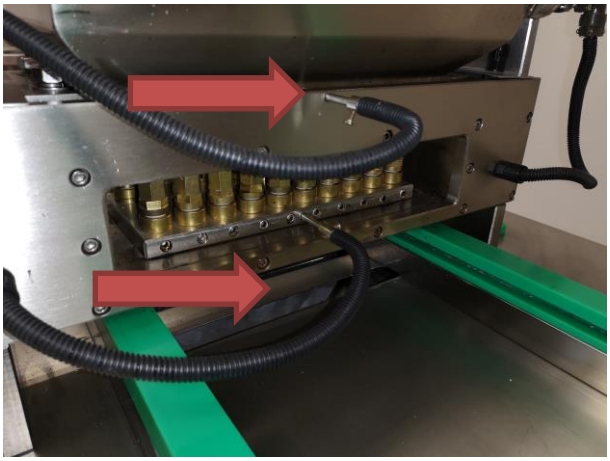
Hopper Removal for Cleaning & Element Replacement Guide

To remove the hopper for cleaning purposes please follow the steps below.

NOTE: BEFORE STARTING THE BELOW STEPS – ENSURE THE RODS ARE IN THE UPWARDS POSITION (HIGHEST POINT) OTHERWISE THE TANK WILL NOT BE ABLE TO BE REMOVED.

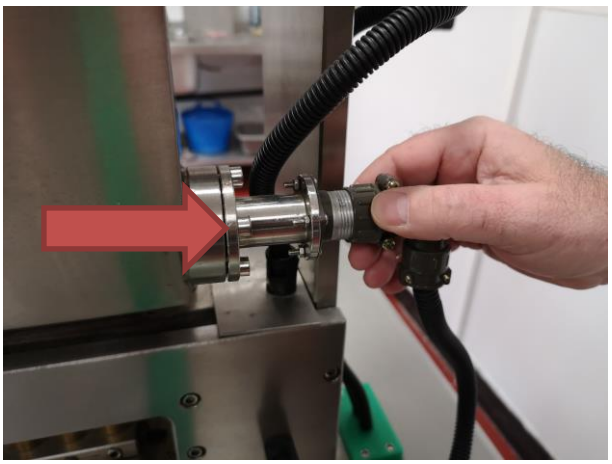
1. Remove the 2 x Temperature Probes shown.

   These simply pull outwards and can be placed to one side.



2. Unscrew and unplug the power connector to the oil jacket.

   This can be placed to one side.



3. Unscrew and remove the oil tank thermostat.

NOTE:

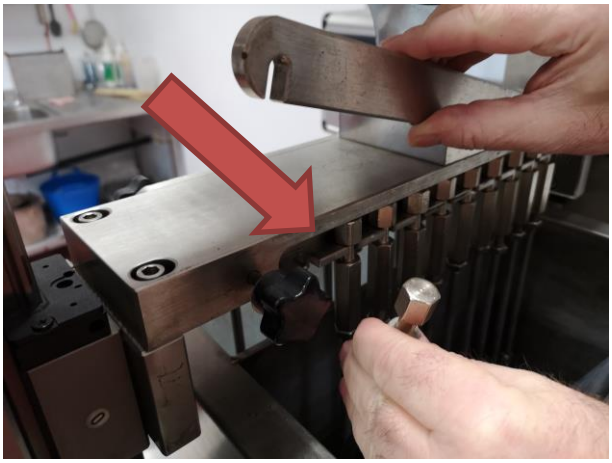
CARE MUST BE TAKEN NOT TO SPILL THE OIL WITHIN THE JACKET WHEN REMOVING THE JACKET FROM THE MACHINE.

4. Unscrew the piston retaining knob.

5. Once the knob is loosened this will allow the bar to be moved.

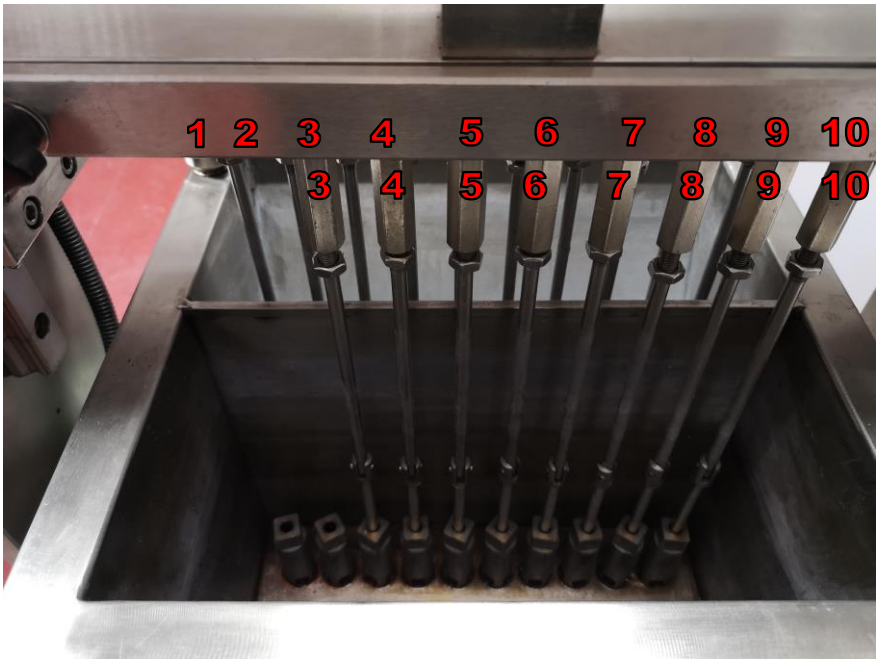
This can be fully removed or moved out of the way.

6. Once the retaining bar is placed out of the way the pistons can be pulled towards you and upwards and outwards.



NOTE:

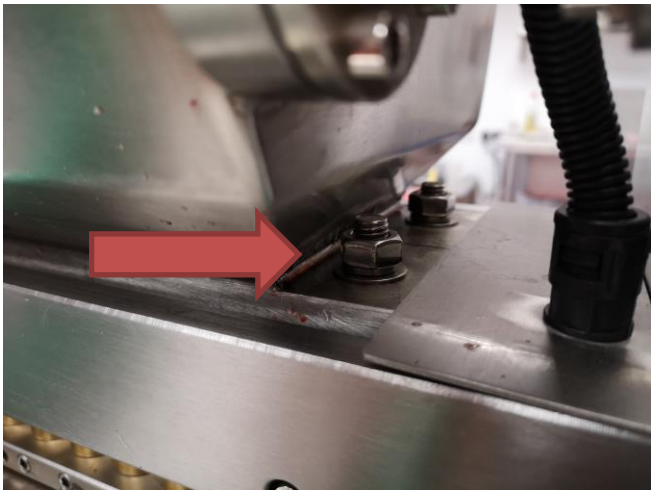
IT WOULD BE WISE TO MARK UP EACH PISTON AND THE LOCATION IT CAME FROM, SO EACH PISTON CAN BE RETURNED TO ITS ORIGINAL POSITION.



7. Now all the pistons have been removed you can continue to remove the hopper from the machine.

   There are 4 nuts in total, 2 nuts are located on the left-hand side and 2 nuts on the right-hand side.

   Once these have been removed, we can move onto the next step.



8. Removing the electrical covers.

   NOTE:

   DISCONNECT & ISOLATE THE MACHINE FROM THE ELECTRICAL SUPPLY BEFORE CARRYING OUT THIS STEP.

   The electrical covers can be lifted upwards and removed.

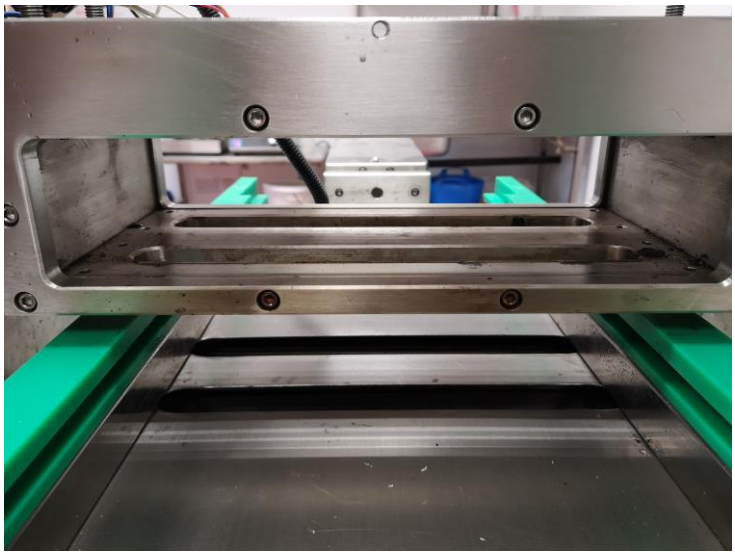
   NOTE:

   THE HOPPER IS HEAVY AND WILL REQUIRE 2 PERSONS TO LIFT OUT THE HOPPER.
   CARE MUST BE TAKEN NOT TO SPILL THE OIL CONTAINED WITHIN THE HOPPER.

9. Image showing the hopper removed and the heating elements exposed.

   SEE ELEMENT REMOVAL GUIDE TO CONTINUE FROM THIS STEP TO REPLACE FAULTY ELEMENTS

10. To remove the nozzle plate, lift the plate upwards and outwards.

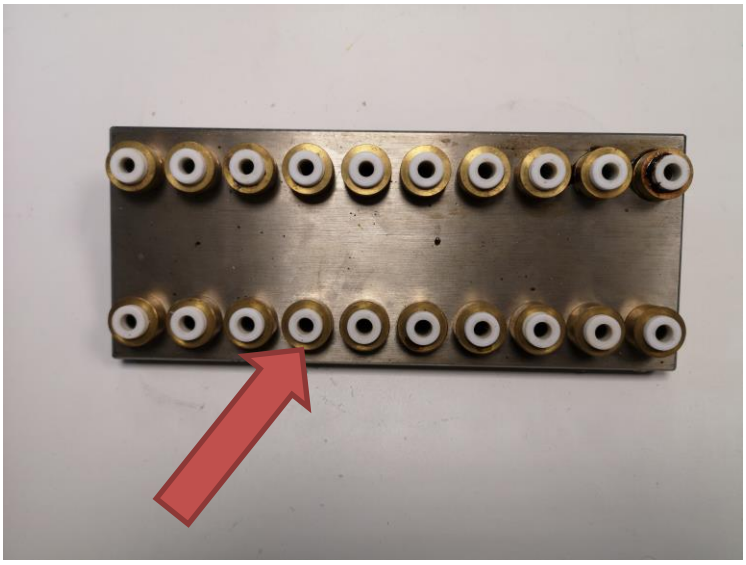


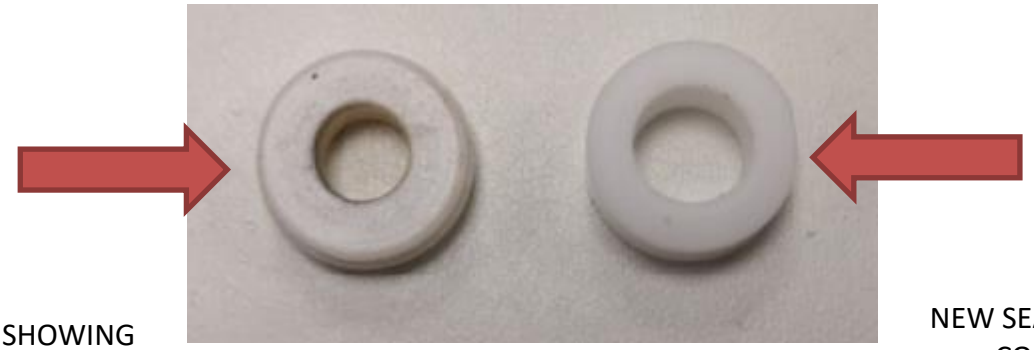
11. Replacing the PTFE Seals.

    The PTFE seals simply lifts out of the nozzle plate.

    The PTFE seals only need to be replaced when there is excessive compression on the seals.

    See Images below for reference.





OLD SEAL SHOWING COMPRESSION

NEW SEAL SHOWING NO COMPRESSION

Replacing Heating Elements

NOTE : ENSURE THE MACHINE IS DISCONNECTED FROM THE ELECTRICAL SUPPLY BEFORE STARTING THE STEPS BELOW.

1. Remove the electrical covers from both sides of the machine.

   This is done by removing the fixing screws located on the inside of the upright pillars.

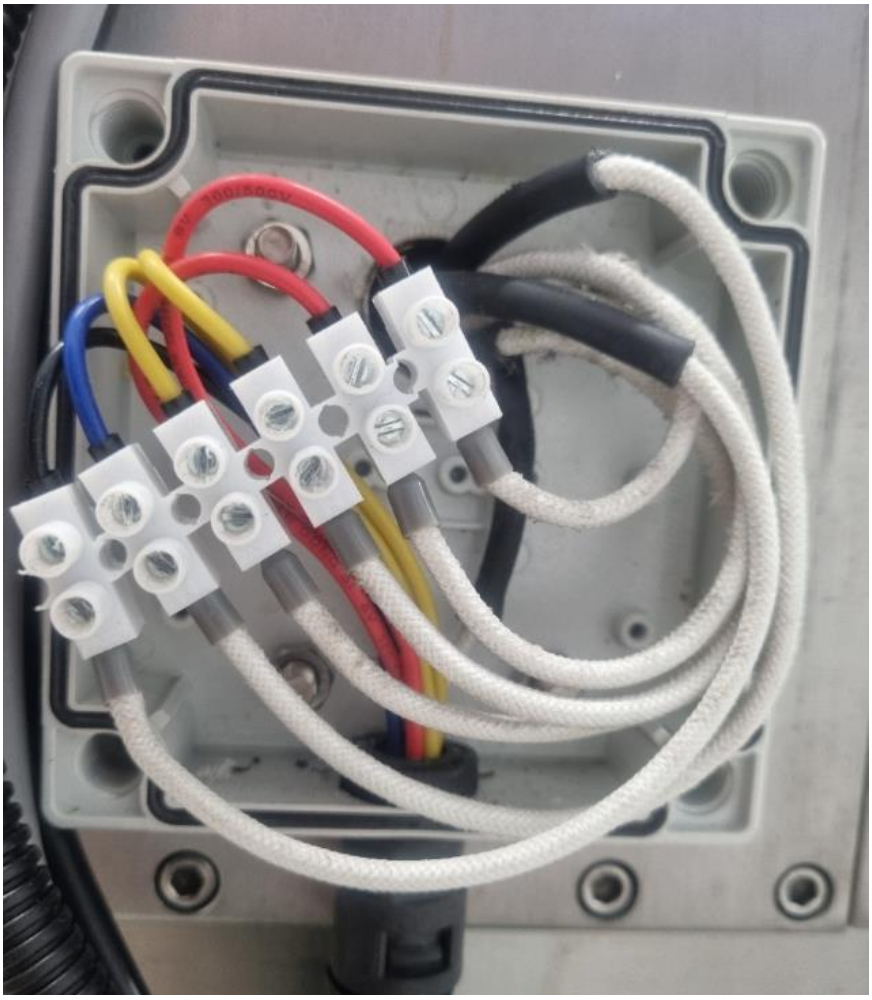
2. Once the covers are removed you will see the terminal boxes which house the connections for the heaters.

   Ensure the machine is disconnected from the electrical supply before disconnecting the heaters.

   Trace the damaged heater cables and disconnect them from the terminal block and replace with new heaters and reconnect the cables to the terminal block.

   Replace the terminal box cover and the electrical panel cover on the machine.

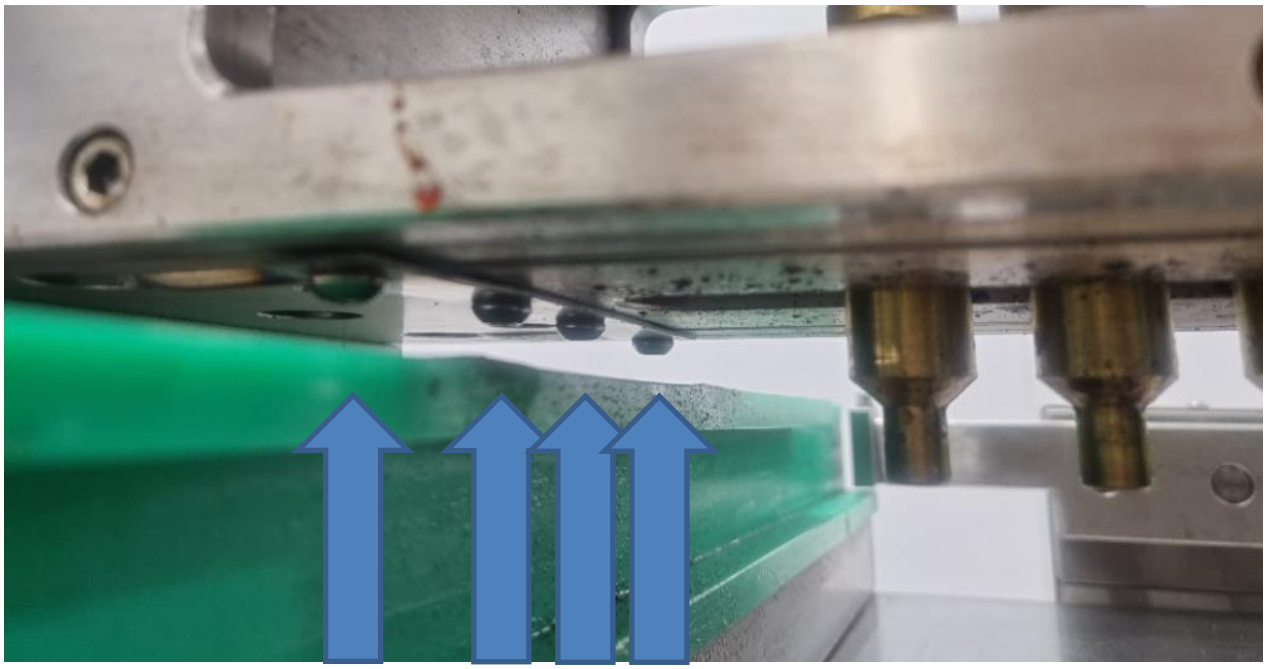
   Test heaters on the temperature page on the HMI Screen and check to to see the current temperature is rising.



3. To remove the bottom heaters it is necessary to remove the mould guides from the machine to access the bolts retaining the bottom heaters.

There are 4 x bolts on the underside of each track that need to be removed from inside the cabinet.

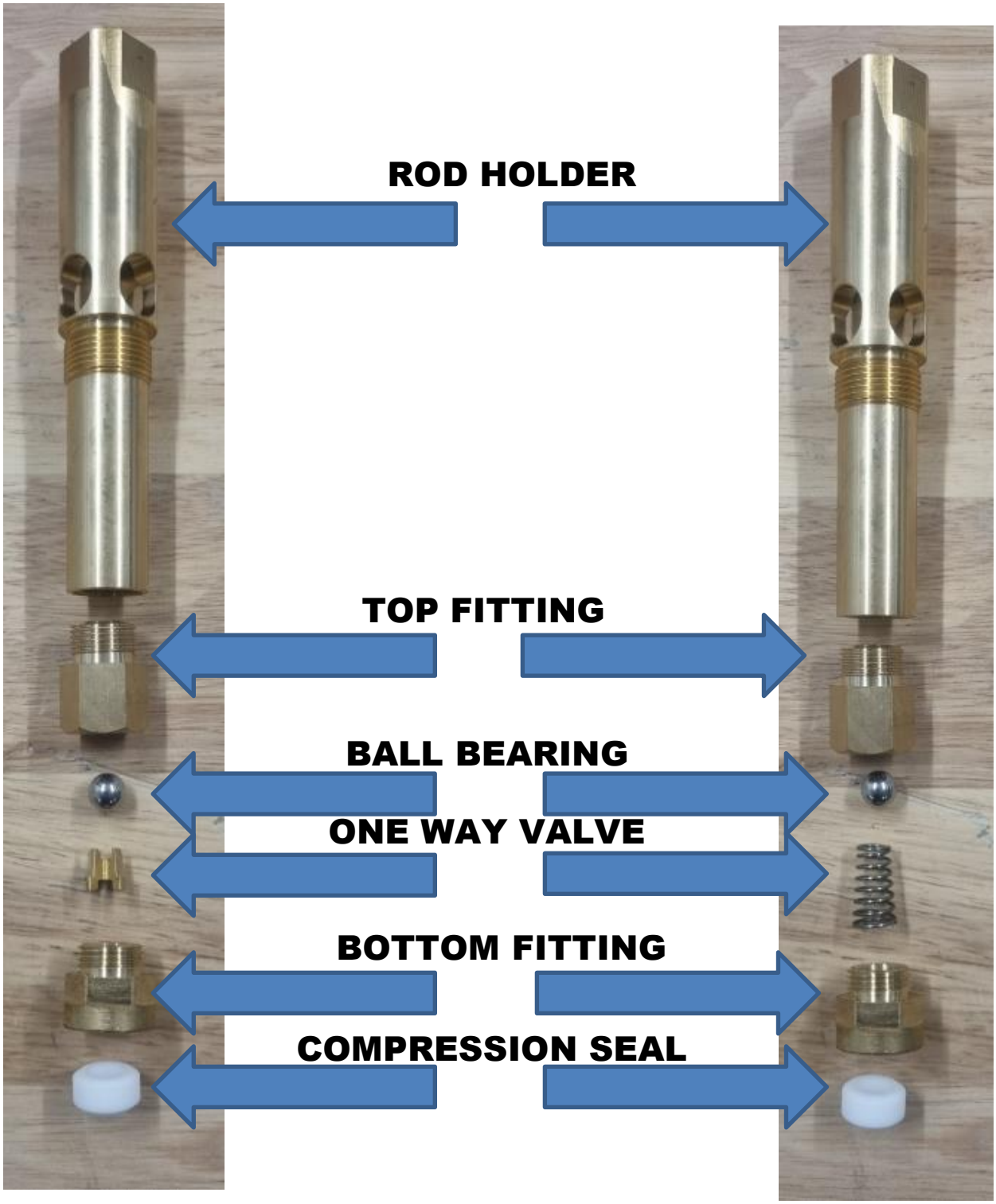
Once these have been removed the green mould track can be removed to expose the bolts retaining the bottom heaters.



Note: Both tracks need removing as there are two sets of heater brackets that need removing from the left-hand side and the right-hand side.

Piston Parts

HARD CANDY **JELLY / FUDGE**



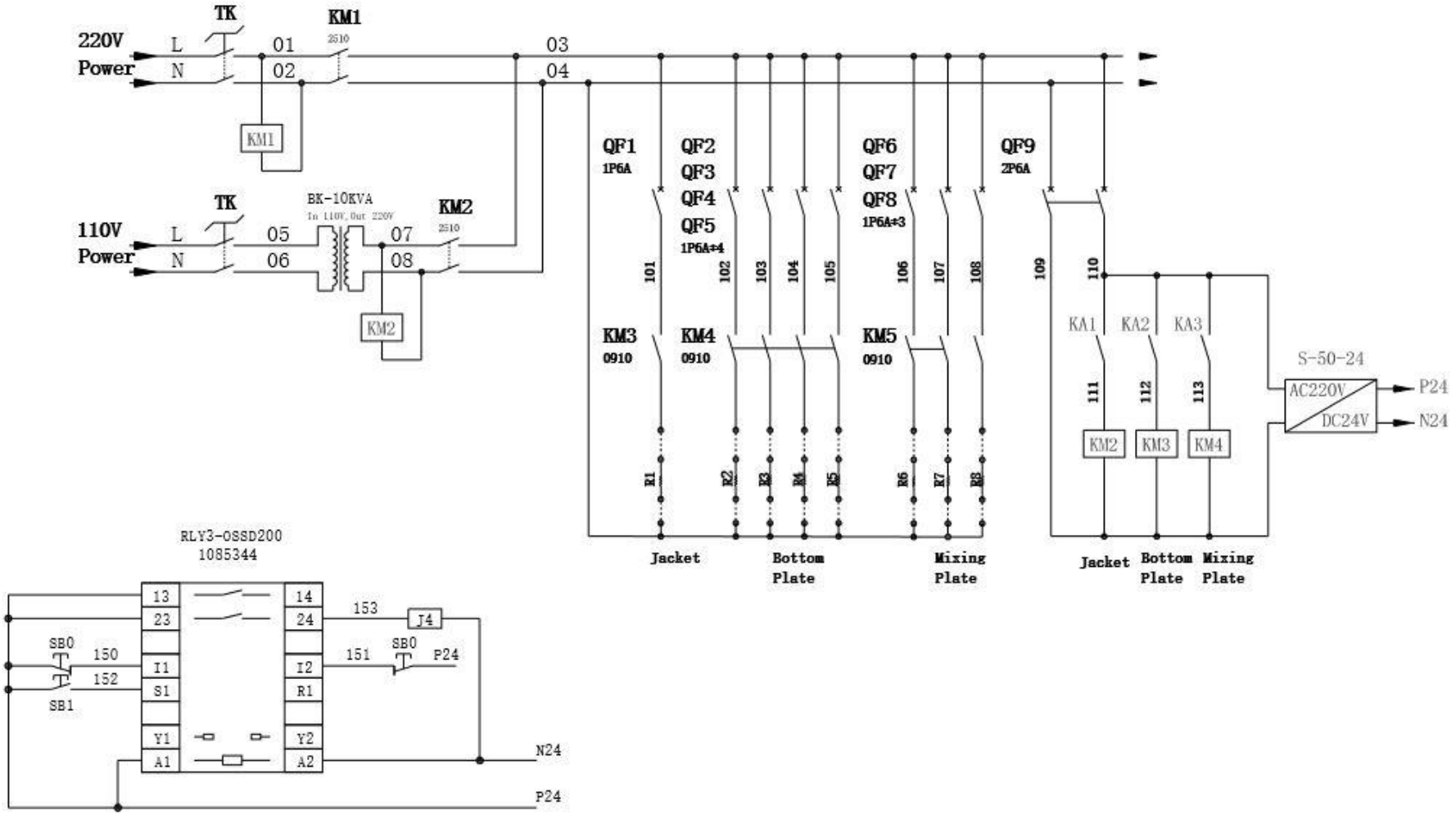
Cleaning

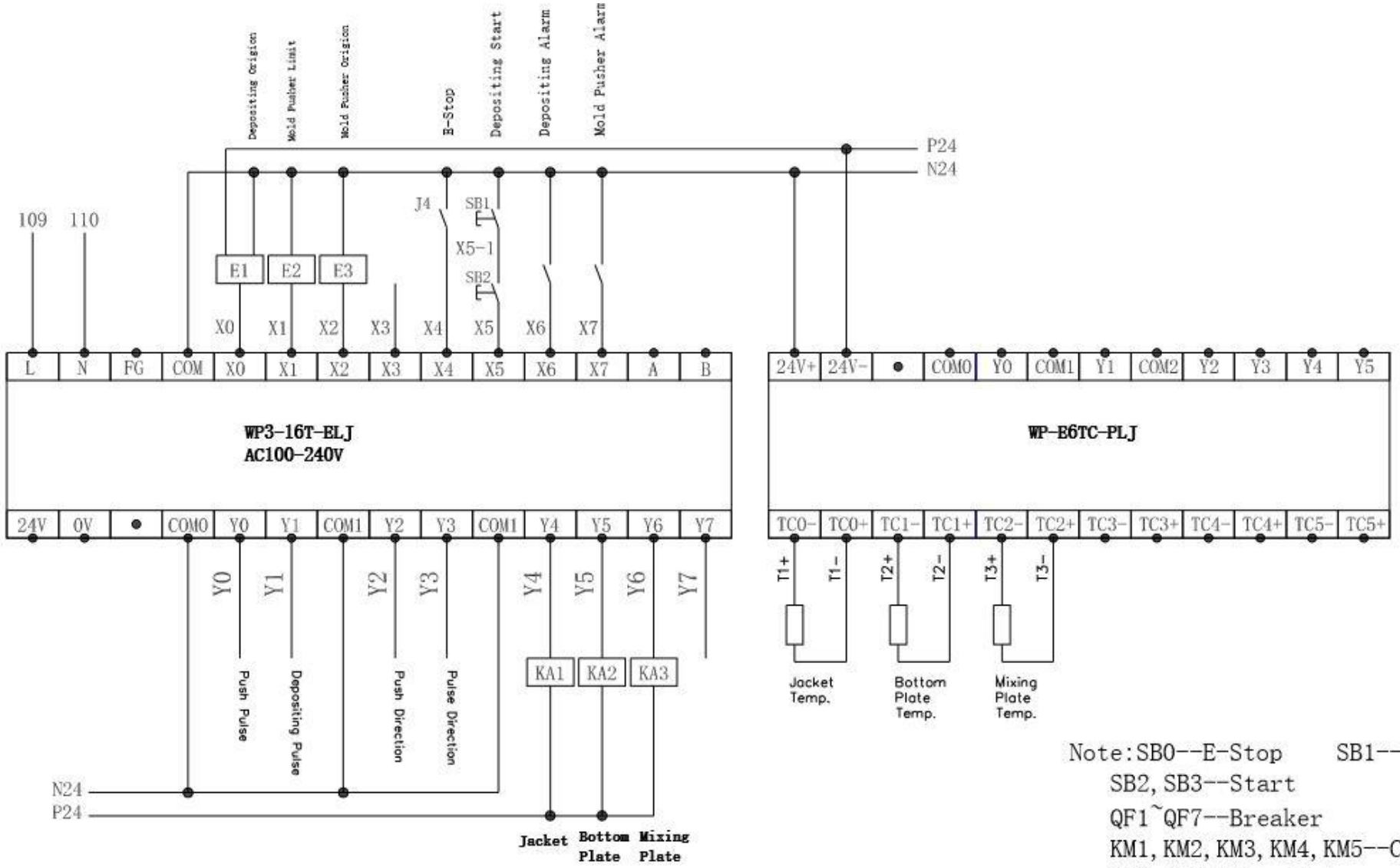
Clean down of depositor hoppers needs to be done as soon as production is finished and the hopper is empty, it cannot be delayed as the product in the depositing tubes can set and this means a total strip down.

1. To clean the machine put very hot or boiling water into the hopper, with the heaters turned up on the hopper the water will simmer, and the product will dissolve.
2. As soon as the hot/boiling water goes in the hopper, the clean cycle is activated in the touch screen, the machine with then cycle and product in the depositing tubes will start to dissolve.
3. The wastewater pours from the nozzles and through a slot under the depositors, this then falls into a trough and to a pipe where the water is discharged.
4. This is left to cycle for 5-10 minutes until all the candy has dissolved and rinsed away.
5. The machine is then turned off, the heat in the machine will evaporate any water in the system.

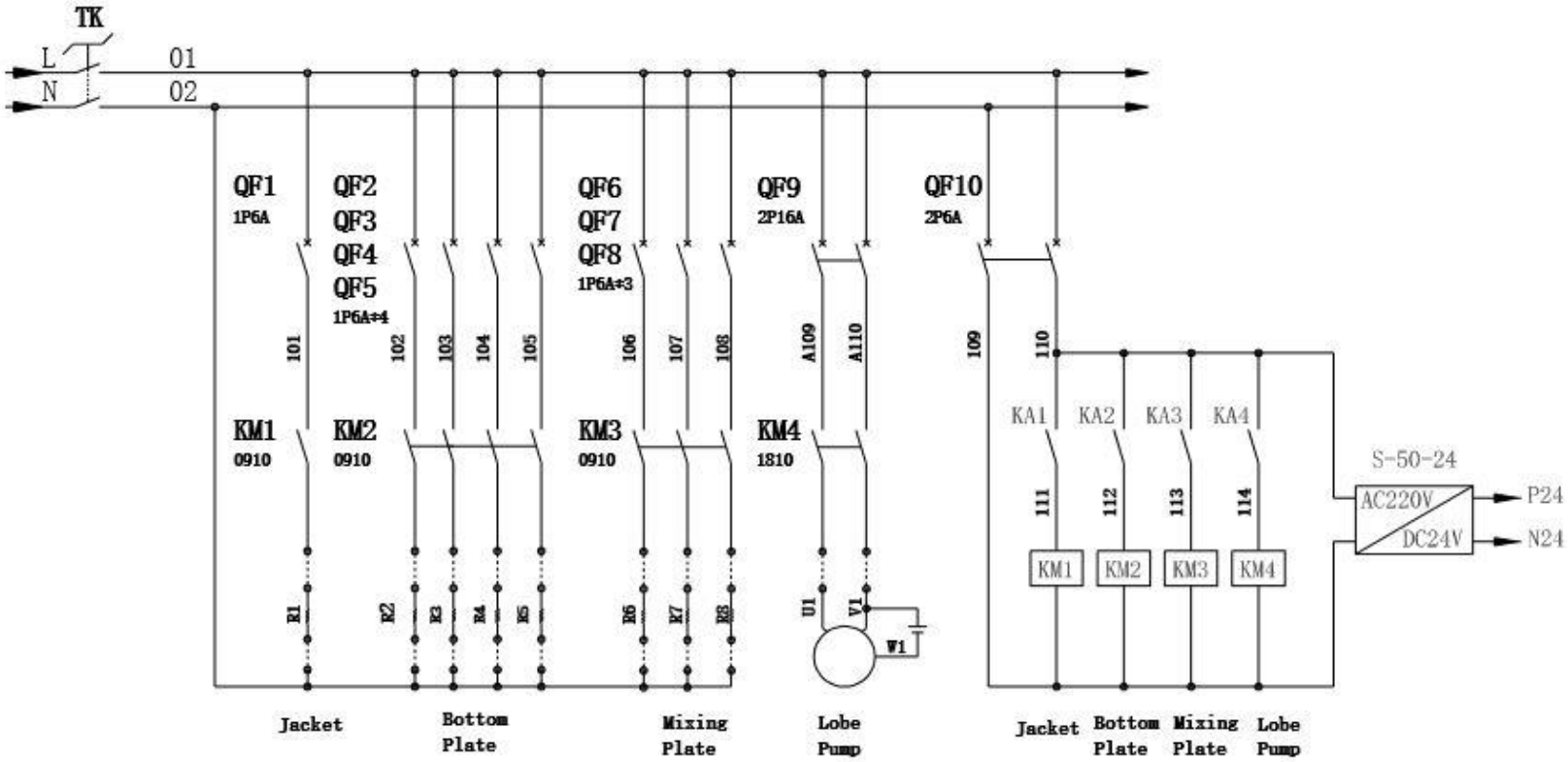
The machine is then ready for the next production. The rest of the machine is wiped down with a cloth with hot soapy water and wiped dry.

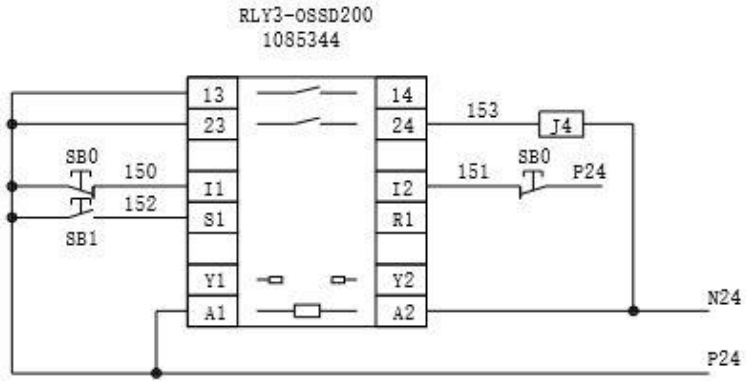
Electrical Wiring Diagrams

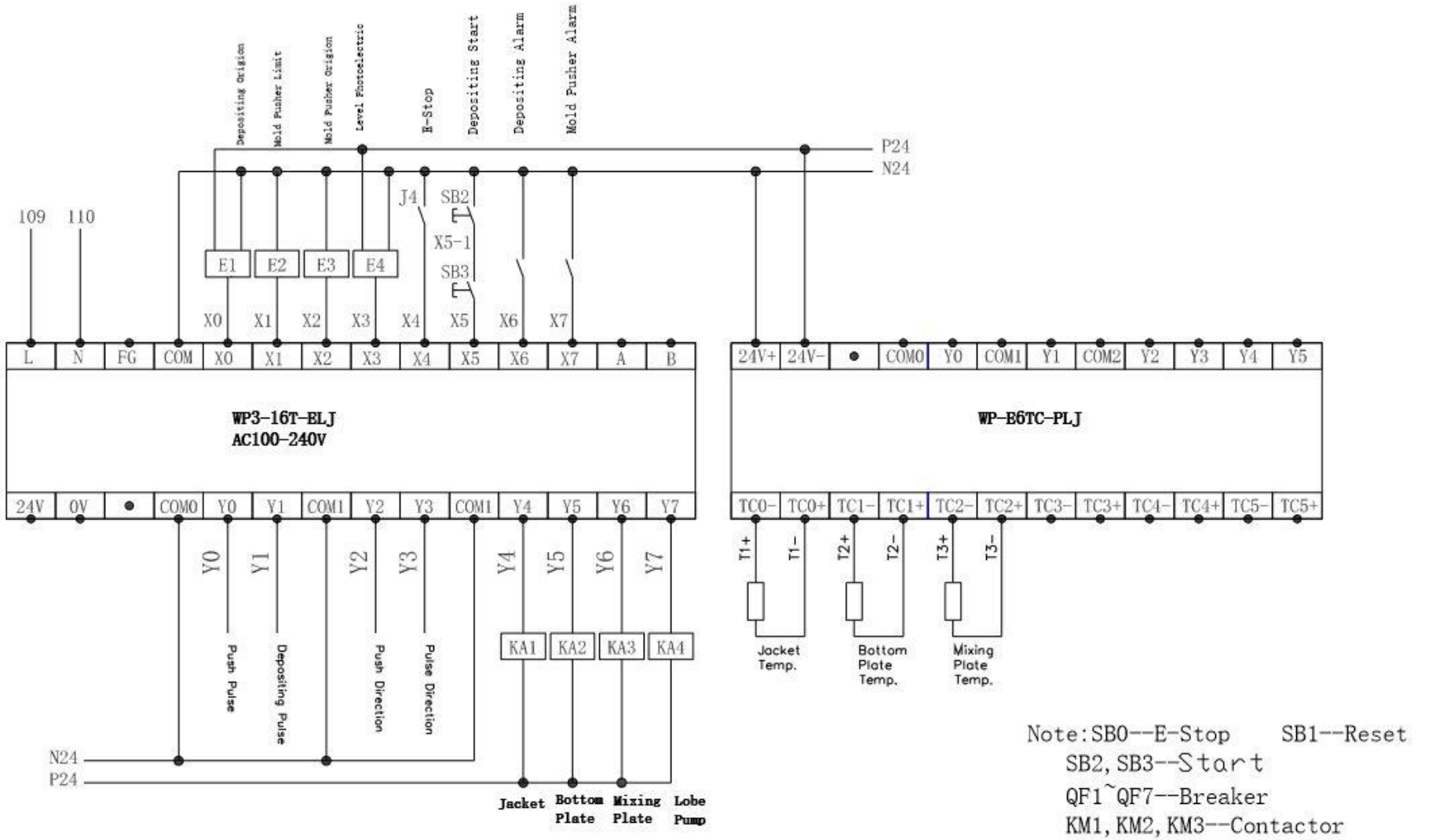




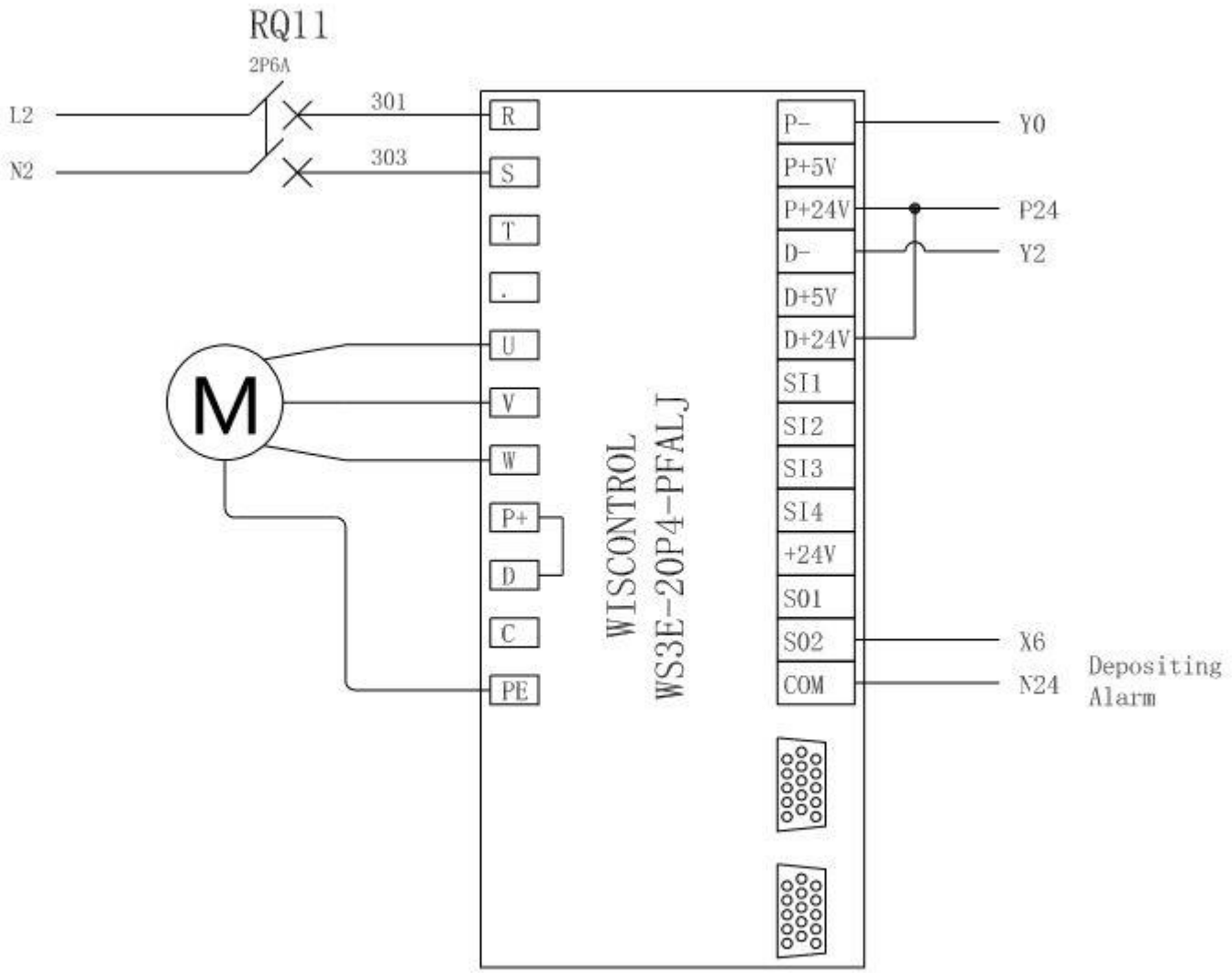
Note:SB0--E-Stop SB1--Reset
SB2, SB3--Start
QF1~QF7--Breaker
KM1, KM2, KM3, KM4, KM5--Contactor
KA1, KA2, KA3, --Relay
S-50-24--Power Switch
E1, E2, E3--Photoelectric Switch

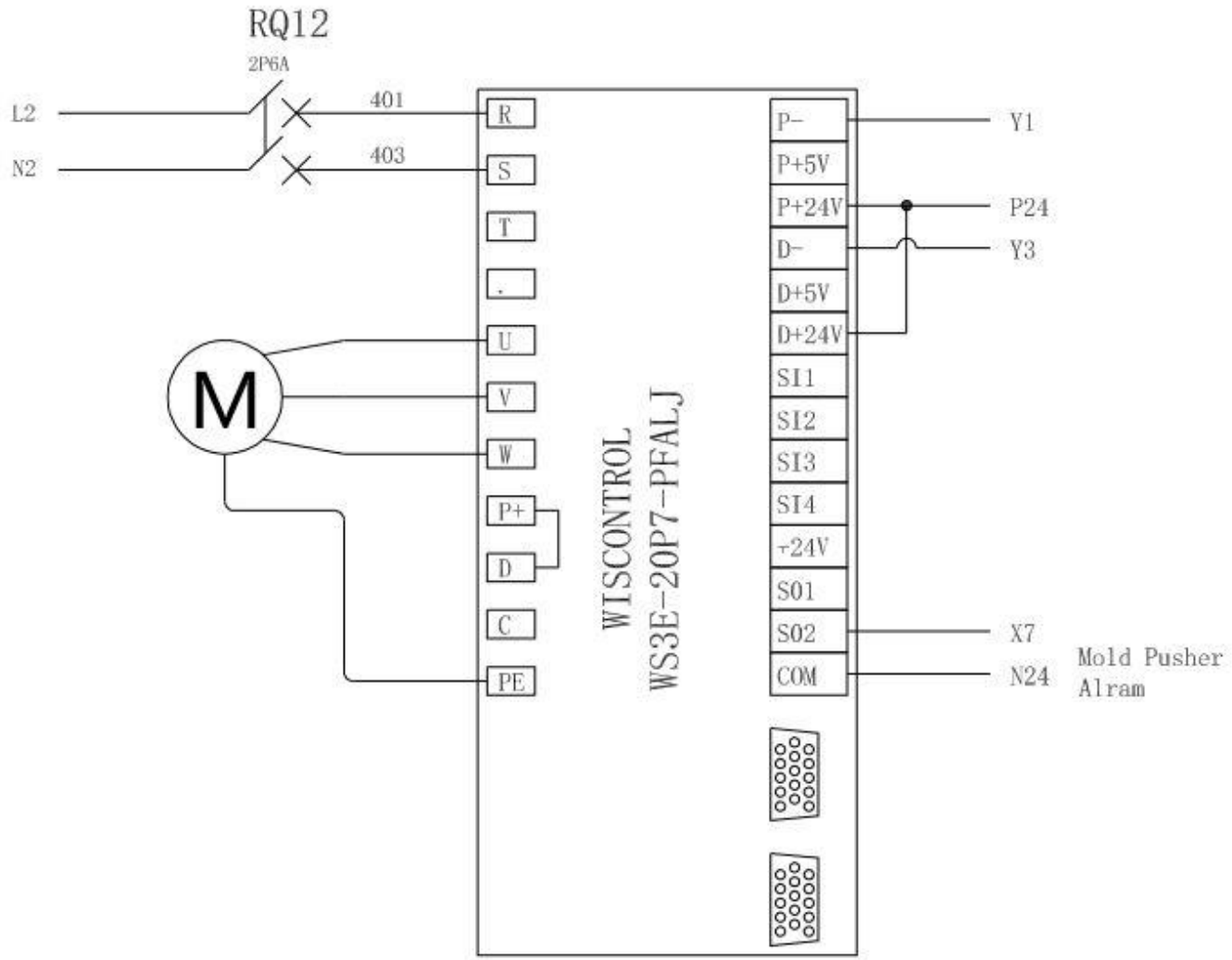

TK
L
N
01
02
QF1
1P6A
QF2
QF3
QF4
QF5
1P6A*4
QF6
QF7
QF8
1P6A*3
QF9
2P16A
QF10
2P6A
101
102
103
104
105
106
107
108
A109
A110
109
110
KM1
0910
KM2
0910
KM3
0910
KM4
1810
KA1
KA2
KA3
KA4
S-50-24
AC220V
DC24V
P24
N24
111
112
113
114
KM1
KM2
KM3
KM4
R1
R2
R3
R4
R5
R6
R7
R8
U1
V1
W1
Jacket
Bottom Plate
Mixing Plate
Lobe Pump
Jacket
Bottom Plate
Mixing Plate
Lobe Pump


RLY3-OSSD200
1085344
13
23
14
24
153
J4
SB0
150
152
SB1
I1
S1
151
SB0
P24
I2
R1
Y1
A1
Y2
A2
N24
P24



Note:SB0--E-Stop SB1--Reset
SB2,SB3--Start
QF1~QF7--Breaker
KM1,KM2,KM3--Contactor
KA1,KA2,KA3,KA4--Relay
S-50-24--Power Switch
E1,E2,E3--Photoelectric Switch


RQ11
2P6A
L2
N2
301
303
R
S
T
.
U
V
W
P+
D
C
PE
M
WISCONTROL
WS3E-20P4-PFALJ
P-
P+5V
P+24V
D-
D+5V
D+24V
SI1
SI2
SI3
SI4
+24V
SO1
SO2
COM
Y0
P24
Y2
X6
N24
Depositing
Alarm


RQ12
2P6A
L2
N2
401
403
M
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S
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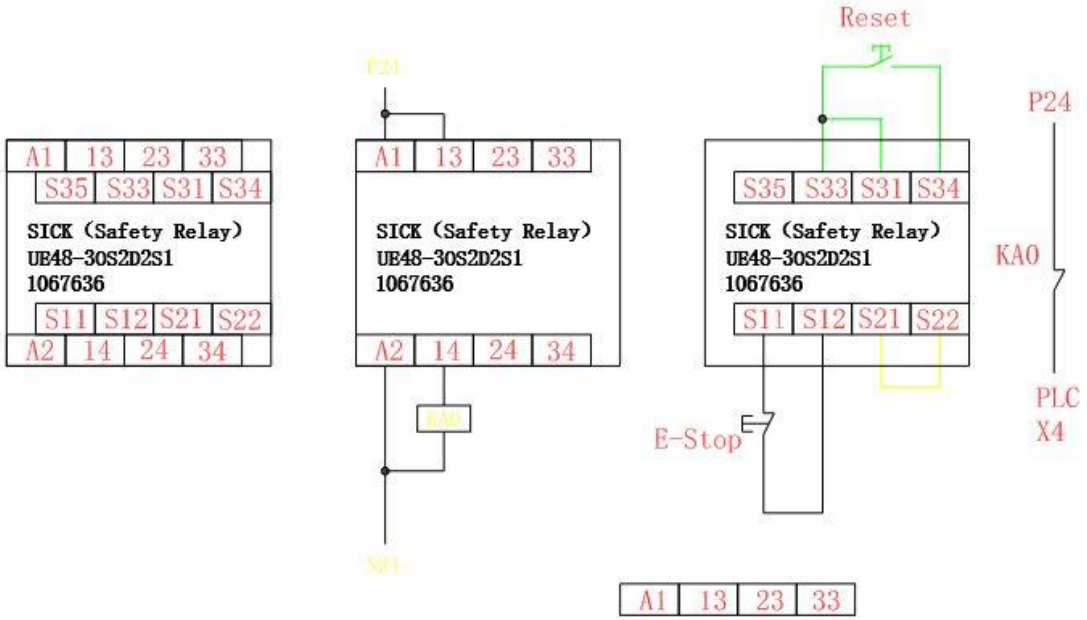
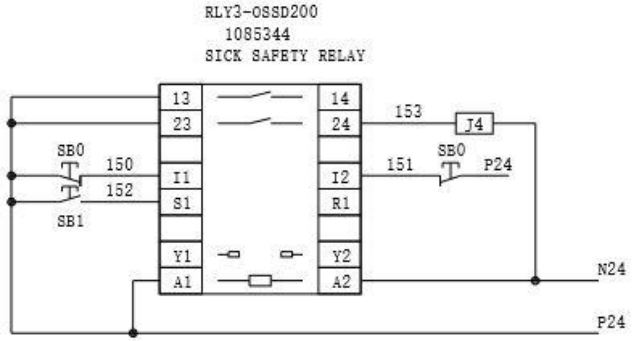
U
V
W
P+
D
C
PE
WISCONTROL
WS3E-20P7-PFALJ
P-
P+5V
P+24V
D-
D+5V
D+24V
SI1
SI2
SI3
SI4
+24V
SO1
SO2
COM
Y1
P24
Y3
X7
N24
Mold Pusher
Alram


Reset
P24
A1 13 23 33
S35 S33 S31 S34
SICK (Safety Relay)
UE48-3OS2D2S1
1067636
S11 S12 S21 S22
A2 14 24 34
KA0
PLC
X4
E-Stop
A1 13 23 33


RLY3-OSSD200
1085344
SICK SAFETY RELAY
13
23
14
24
153
J4
SB0
150
I1
152
S1
SB1
151
SB0
P24
I2
R1
Y1
A1
Y2
A2
N24
P24

Specification

Max Speed
40 cycles per minute

Overall Height
1850mm (Different models may be larger or smaller)

Overall Length
1250mm (Different models may be larger or smaller)

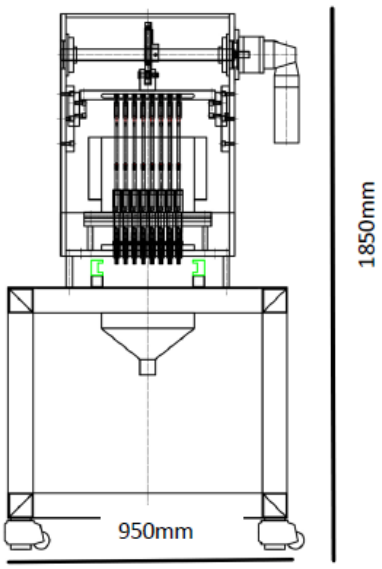
Overall Width
950mm (Different models may be larger or smaller)

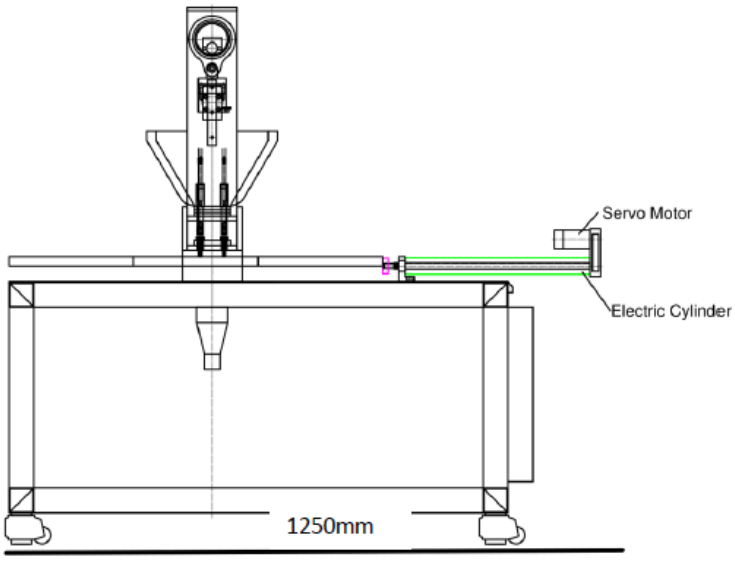
Material
Machine Outer - 304 Stainless-Steel

Power Single Phase 4kW

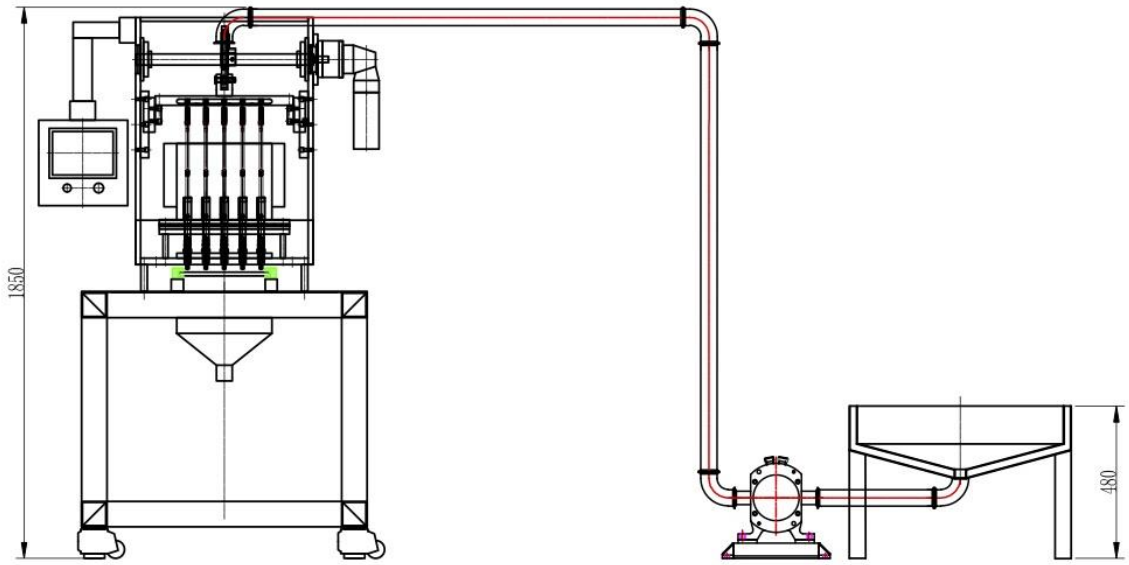
Weight 350Kg

Uses Depositing of product such as Jelly, Hard Candy, Soft candy, Toffee, Fudge and Fondant.

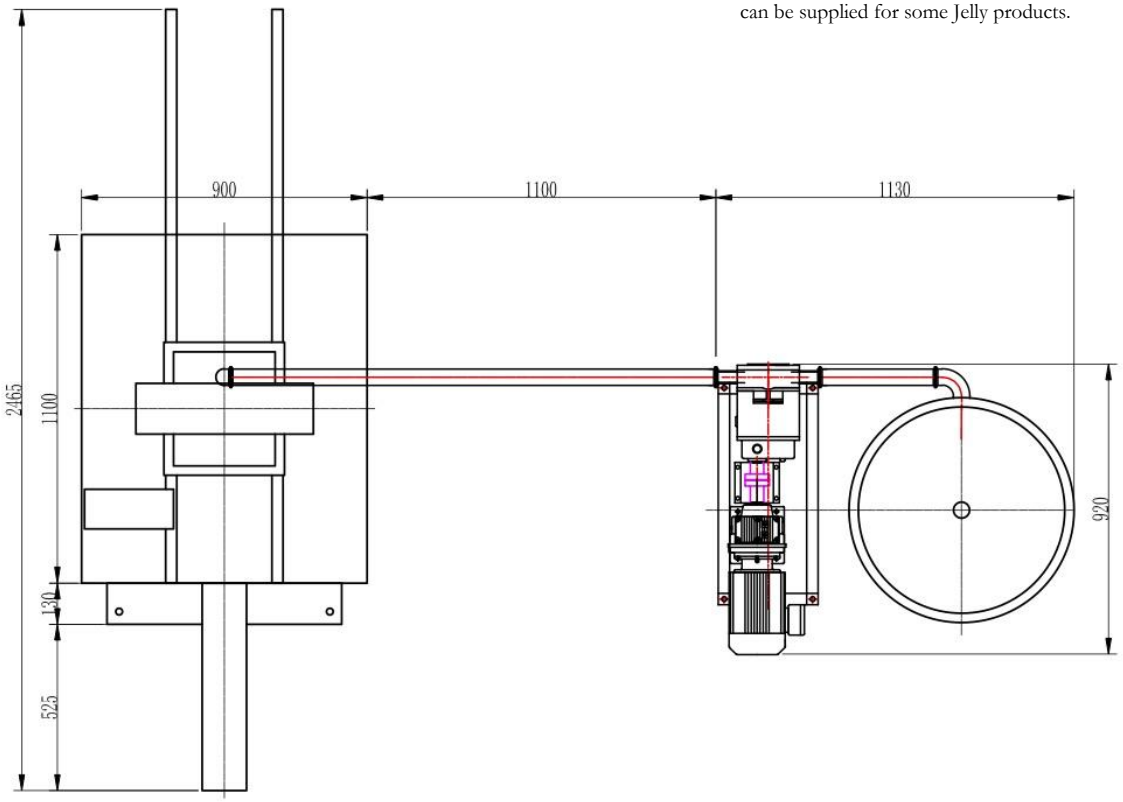




AUTOMATIC FILL SYSTEM - PUMP & HOPPER LAYOUT



The Hopper Fill System is an option that can be supplied for some Jelly products.



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T: +44 (0)1253882961
E: SALES@LOYNDS.CO.UK
W: WWW.LOYNDS.CO.UK

EC Declaration of Conformity.

Product Type: - Mini Universal Candy Depositor

Voltage: - 240 / 110v 1 Phase

Country of Manufacture: - England / China

We declare that the product described above is in conformity with the relevant provisions of the following directives as amended.

The Machinery Directive 2006/42/EG
The Low Voltage Directive 2014/35/EU

General Description: -

A machine designed to deposit various liquid into moulds.

Signature: - Jloynds

Signatory: Mr. J Loynds

Position: Director

Dated: - November 2021