



www.monoequip.com

Enter **Serial No.** here. _____

In the event of an enquiry please quote this serial number.



“OMEGA PLUS”

INCLUDING WIRECUT VERSION DEPOSITOR (400, 450,)

OPERATING AND MAINTENANCE MANUAL

The use of templates and/or accessories not produced or supplied by MONO Equipment will invalidate the machine's warranty


FILE 11



DECLARATION OF CONFORMITY

We hereby declare that this machine complies with the essential health and safety requirements of :-

- The Machinery Directive 2006 / 42 / EC
- The Low voltage Directive 2014 / 35/ EC
- The requirements of the Electromagnetic Compatibility Directive 2004 / 108EC, 91 / 263 / EEC, 92 / 31 / EEC
Incorporating standards
EN55014-1:2006+A1:2009+A2:2011
EN55014-2:1997+A1:2001+A2:2008
- The General Safety of Machinery and food processing Standards applicable
- Materials and Articles intended to come into contact with food
Regulation (EC) No. 1935 / 2004
- Good manufacturing practice for materials intended to come into contact with food – Regulation (EC) No.2023/2006

Signed			
G.A.Williams – Quality Manager			
Date			
Machine FG Code.		Machine Serial No.	

A technical construction file for this machine is retained at the following address:

MONO EQUIPMENT

Queensway,
Swansea West Industrial Park,
Swansea
SA5 4EB
UK

MONO EQUIPMENT is a business name of **AFE GROUP Ltd**
Registered in England No.3872673 VAT registration No.923428136

Registered office: Unit 9, Bryggen Road,
North Lynn Industrial Estate,
Kings Lynn,
Norfolk,
PE30 2HZ

Failure to adhere to the cleaning and maintenance instructions detailed in this booklet could affect the warranty of this machine.



WIRECUT VERSION

The use of templates and/or accessories not produced or supplied by MONO Equipment will invalidate the machine's warranty

SAFETY SYMBOLS

The following safety symbols are used throughout this product documentation and manual (available at www.monoequip.com).

Before using your new equipment, read the instruction manual carefully and pay special attention to information marked with the following symbols.



WARNING

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a hazardous situation which, if not avoided, will result in electric shock.



CAUTION

Indicates a hazardous situation which, if not avoided, will result in minor or moderate injury.

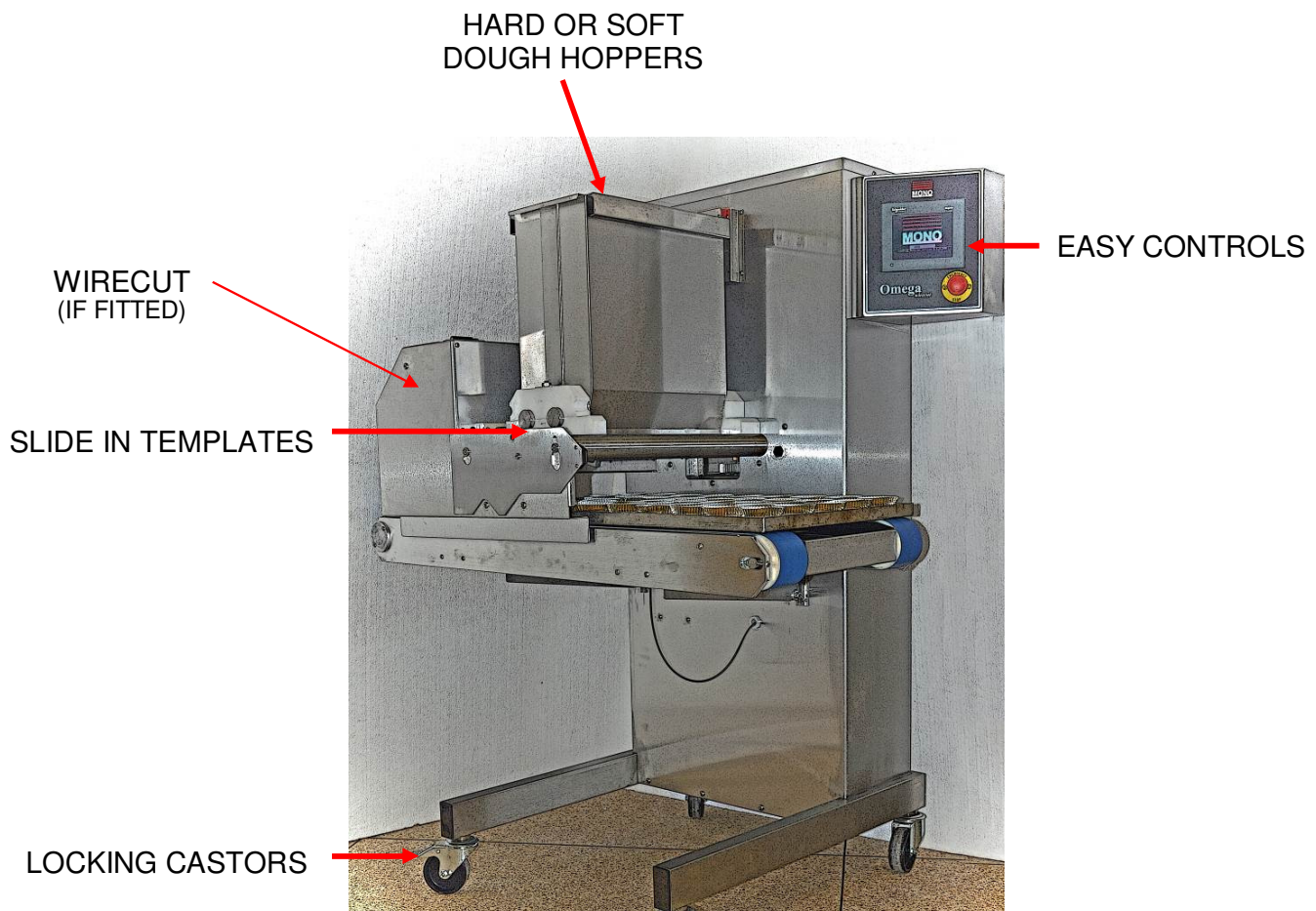
CONTENTS

1.0	-	INTRODUCTION	Page 6
2.0	-	DIMENSIONS	Page 7
3.0	-	SPECIFICATIONS	Page 8
4.0	-	SAFETY	Page 9
5.0	-	INSTALLATION	Page 11
6.0	-	ISOLATION	Page 11
7.0	-	CLEANING INSTRUCTIONS	Page 12
8.0	-	OPERATING CONDITIONS	Page 16
9.0	-	PREPARING FOR OPERATION	Page 17
		9A – FITTING THE HOPPER	Page 18
		9B – FITTING A TEMPLATE	Page 19
10.0	-	OPERATING INSTRUCTIONS	Page 24
		1 – SELECT PRODUCT TYPE	Page 27
		2 – SELECT SAVED NAME OF PRODUCT TYPE	Page 28
		3 – CONFIRM SETUP	Page 29
		4 – OPERATOR SCREEN	Page 30
		5 – EDIT SCREEN	Page 31
		5A – TRAY SETUP	Page 34
		6 – COPY	Page 35
		7 – DELETE	Page 36
		8 – PASSWORDS	Page 37
		9 – ENGINEERING SETTINGS	Page 38
		10 – FAULT INFORMATION SCREENS	Page 44
11.0	-	MAINTENANCE	Page 46
		CHECK AND MAINTENANCE SCHEDULE	Page 47
12.0	-	SPARES AND SERVICE	Page 48
13.0	-	ELECTRICAL INFORMATION	Page 58
		OMEGA TLCC/LMC TO M251 CONVERSION KITS	Page 74
		TLCC to M251 Conversion Procedure	Page 75
		LMC20 to M251 Conversion Procedure	Page 86

1.0 INTRODUCTION

Omega
PLUS

- The innovative “five axis deposit” design of MONO’s “**Omega PLUS**” and “**Omega PLUS with wirecut**” depositor allows it to recreate most of the hand movements of the Master confectioner. This makes the “**Omega PLUS**” capable of exceptional accuracy of product weight, size and shape.
- Maintenance is kept to a minimum and the smooth body design makes daily cleaning quick and easy.
- Easy to use computer software gives access to 550 programs, which are stored in the memory and easily recalled for use or modification. Control is via a colour touch screen with graphically represented products, already installed, that can be created or edited to the required product.
- It is available with soft and hard dough hoppers. There is also a large selection of templates and nozzles as well as various shape biscuit dies to use with the wirecut version.



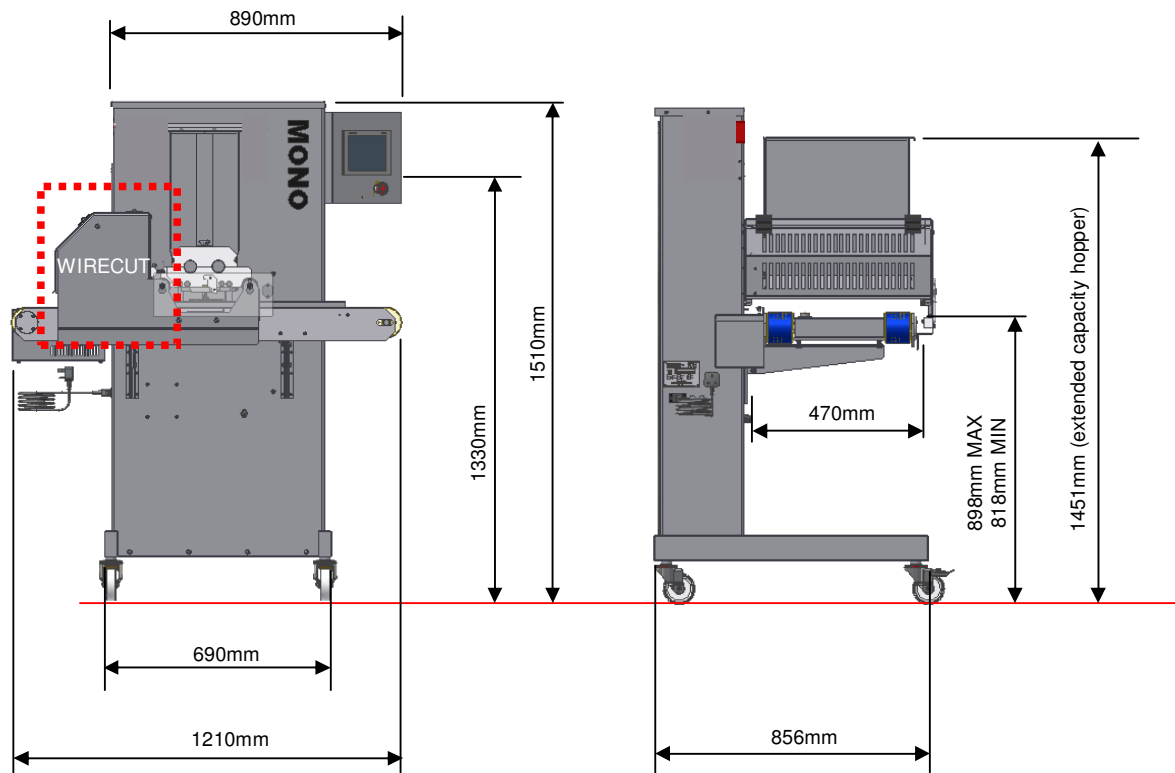
As it is our policy to improve our machines continuously,
we reserve the right to change specifications without prior notice

MODELS ARE AVAILABLE WITH OR WITHOUT WIRECUT OPTION

2.0 DIMENSIONS

**Omega
PLUS**

MODELS ARE AVAILABLE WITH OR WITHOUT WIRECUT OPTION



WIRECUT VERSION



OMEGA PLUS

3.0 SPECIFICATIONS

Omega
PLUS

	<u>SOFT DOUGH</u>		<u>HARD DOUGH</u>	
MODEL (Nom. hopper width (mm))	400	450	400	450
Weight (with hopper fitted) (kg) :	196	210	216	235
Standard hopper Capacity (litre) :	20	22.5	21	24
Extended hopper Capacity (litre) :	36	41	31	35

Power: Single phase, 13A max load. Suitable for 200v, 220v, 230v, and 240v, 50-60 Hz supply.
MAX RATING 2.5kW single phase fused at 13A



The supply to this machine must be protected by a **30mA RCD**

Cycles per minute	= Up to 35
Min distance between trays	= 50mm
Max vertical travel	= 80mm
Max program storage	= 650
Number of languages	= 18 (additional in future)
Noise level	= Less than 85dB
Electronics	= All microprocessor controlled

NOTE:

The minimum deposit that can be made depends on several factors - recipe, mixing method, template size, nozzle size and deposit speed.

As a guide the following is the minimum that should be attempted:

Macaroons	6g.
Meringues	3g.
Choux Paste	5g.
Viennese	4g.
Sponge Drops	4g.

However, consult **Mono Equipment** if intended product falls outside the above general machine specification to determine the exact capabilities of the "Omega" with any specific product.

As it is our policy to improve our machines continuously, we reserve the right to change specifications without prior notice

1 **Never use a machine in a faulty condition** and always report any damage.

2 **Only trained engineers** may remove parts that need a tool to remove them.



3 Always ensure hands are dry before touching any electrical appliance (including cable, switch and plug). **NEVER move machinery by pulling on the power cords or cables.**

4 **Ensure that the floor area around the OMEGA is clean to avoid slipping** – especially if carrying heavy hopper and template components to and from the machine.

5 **All operatives must be fully trained.**



Use of the machine can prove dangerous if:

- ☐ the machine is operated by **untrained or unskilled staff**
- ☐ the machine is not used for its **intended purpose**
- ☐ the machine is **not operated correctly**

All safety devices applied to the machine during manufacture and the operating instructions in this manual are required to operate this machine safely. The owner and the operator are responsible for operating this machine safely.

6 People undergoing training on the machine must be under **direct supervision**.

7 **Do not operate the machine with any panels or guards removed.**



They are there to protect you.

8 **No loose clothing or jewellery** should be worn while operating the machine.



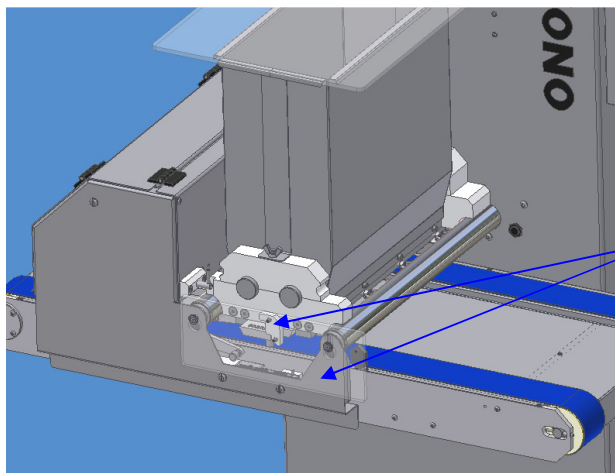
They could cause damage to the machine and person.

9 **Switch off power** at the mains isolator when machine is not in use and **before carrying out any cleaning or maintenance.**

- 10 The bakery manager or the bakery supervisor should carry out **daily safety checks** on the machine.



- 11 Do not operate machine without a hopper **template and the guard fitted correctly**.



**(11) HOPPER TEMPLATE AND
GUARD FITTED**

NOTE
Guard can be plastic or metal depending
on the machine model



- 12 Due to the essential requirement for handling heavy components during cleaning, it is recommended that **protective footwear** be worn when carrying out such procedures.

**ALL CLEANING AND MAINTENANCE OPERATIONS MUST
BE MADE WITH THE MACHINE DISCONNECTED FROM
THE POWER SUPPLY.**



5.0 INSTALLATION

Omega
PLUS

1. Ensure that the depositor is connected to correct electric supply, as specified on the serial number plate on the side of the machine.



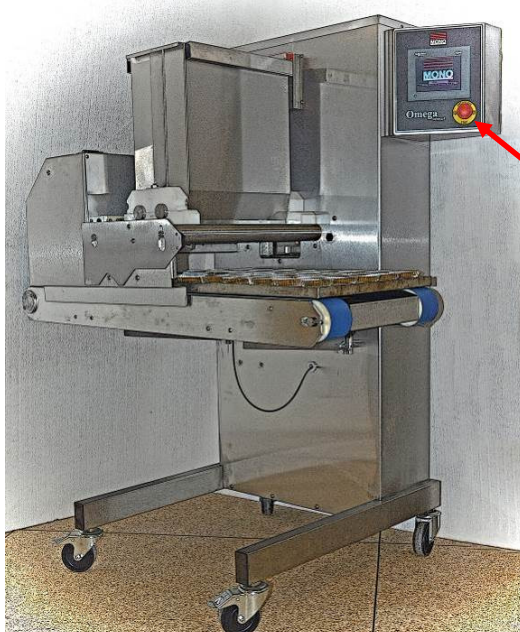
The supply to this machine must be protected by a **30mA RCD**

2. Ensure that the correct fuse rating is fitted in the electrical supply
3. Position the machine in the correct position for working and lock the two locking wheels to stop movement.

6.0 ISOLATION

 **IN AN EMERGENCY, SWITCH OFF AT THE ELECTRICAL MAINS WALL ISOLATOR, OR PUSH THE EMERGENCY STOP BUTTON.**

To release the emergency stop button, turn clockwise. 



STOP BUTTON

7.0 CLEANING INSTRUCTIONS

Omega
PLUS

NOTE:



- Cleaning must be carried out by fully trained personnel only.
- Isolate machine from mains supply before carrying out any cleaning.
- Do not steam clean or use a jet of water.

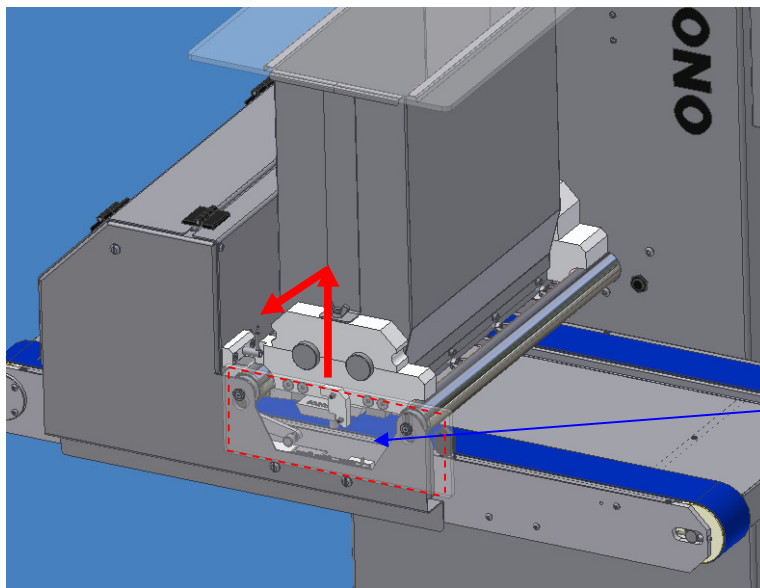
-Do not use any form of caustic detergent or abrasive cleaners. -

All the outer surfaces of the machine should be wiped over daily with warm soapy water.

HARD AND SOFT DOUGH HOPPERS **BETWEEN PRODUCT MIX CHANGES**

The feed hopper, pump assembly, template, nozzles etc. should be removed from the machine and dismantled for thorough cleaning between product mix changes.

1. Open hopper and remove excess mixture remaining.
2. Lift off front safety cover.



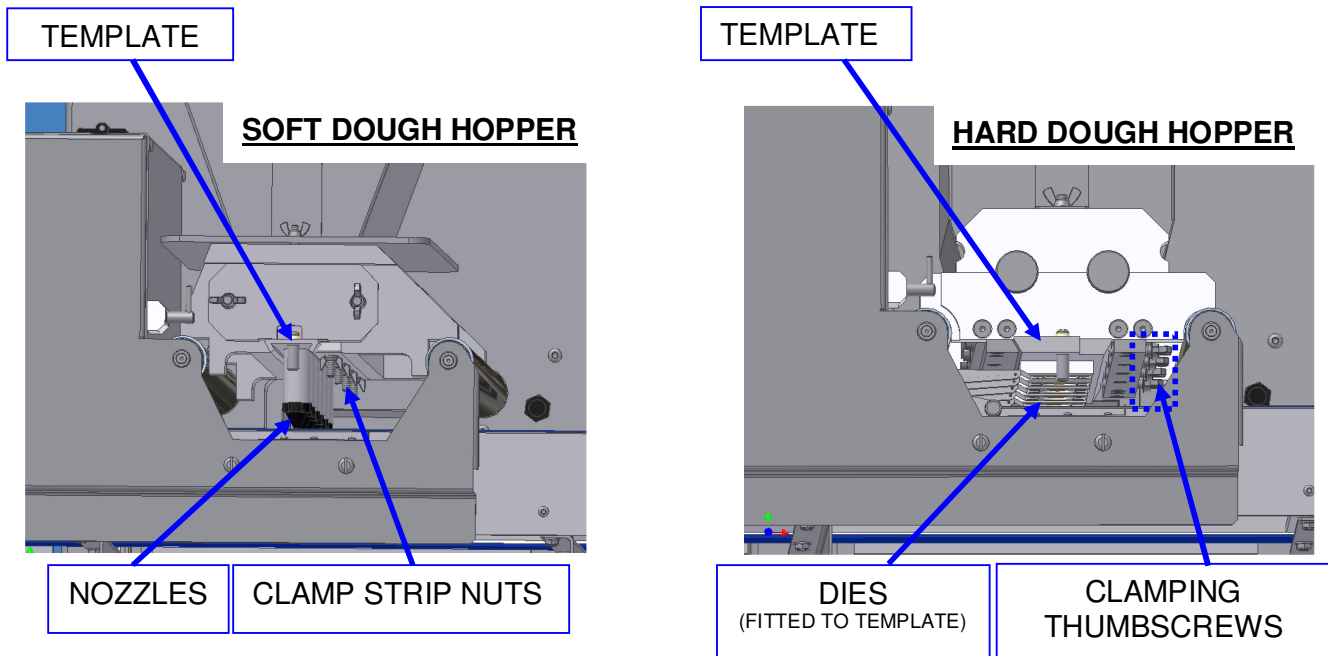
SAFETY COVER

NOTE
Guard can be plastic or metal depending
on the machine model

3. Slacken template clamp strip nuts or thumbscrews (depending on type of hopper)
Remove fitted template from pump assembly by sliding out to avoid subsequent damage.

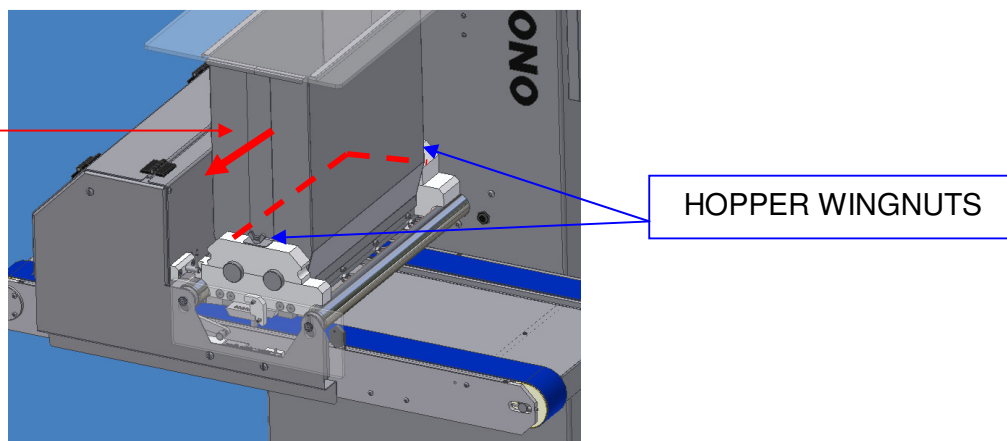
NOTE.

Thumbscrews only need to be released slightly to allow the template to slide away from the pump assembly. If loosened too much, the template will have to be supported.



- 4 To reduce weight and bulk, separate and remove empty feed hopper from pump assembly, whilst still on the machine, by unscrewing the wing nuts.

To gain access to the inner wing nut, slide the complete hopper away from the machine body slightly (keep on support bars) - this will also disengage the pump assembly from the drive shaft.



Ensure that the nuts are placed where they will not be lost.

SOFT DOUGH HOPPER

Omega
PLUS



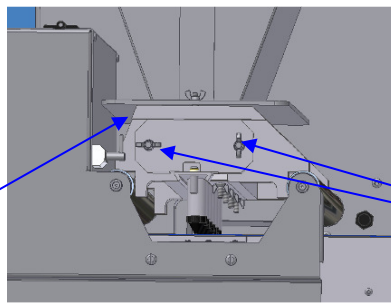
CAUTION:

The feed hopper and pump assembly exceeds 25kg and will need to be lifted off by two people, or dismantled into smaller components while still on the machine.

Take care to avoid damage to the sealing surface of the feed hopper during removal, cleaning, assembly and storage.

1. After removing the feed hopper, check condition of feed hopper seal.
2. Unscrew the end cap retaining nuts from the accessible side of the pump assembly.
[Ensure that the nuts are placed where they will not be lost.]

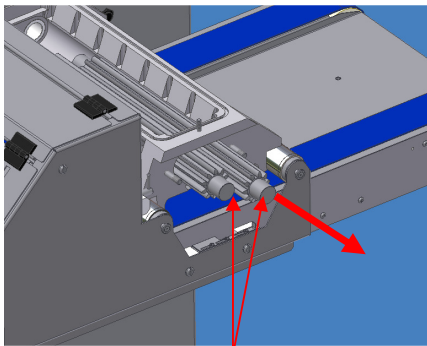
FEED HOPPER
SEALING SURFACE



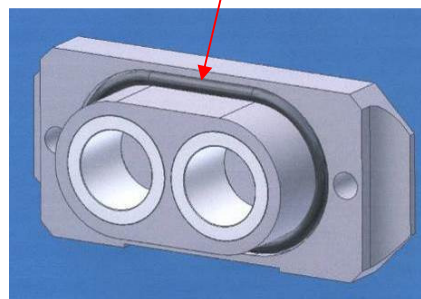
ENDCAP NUTS

3. Withdraw the end-cap with the pump gears.

Ensure that the 'O' sealing ring on the inside of the end cap is not damaged during cleaning.



PUMP GEARS
REMOVE WITH END CAP
(NOT SHOWN)



'O' RING IN GROOVE

END CAP

4. Remove remainder of pump assembly from the machine and remove remaining end-cap to fully dismantle pump assembly components for cleaning.

HARD DOUGH HOPPER



CAUTION:

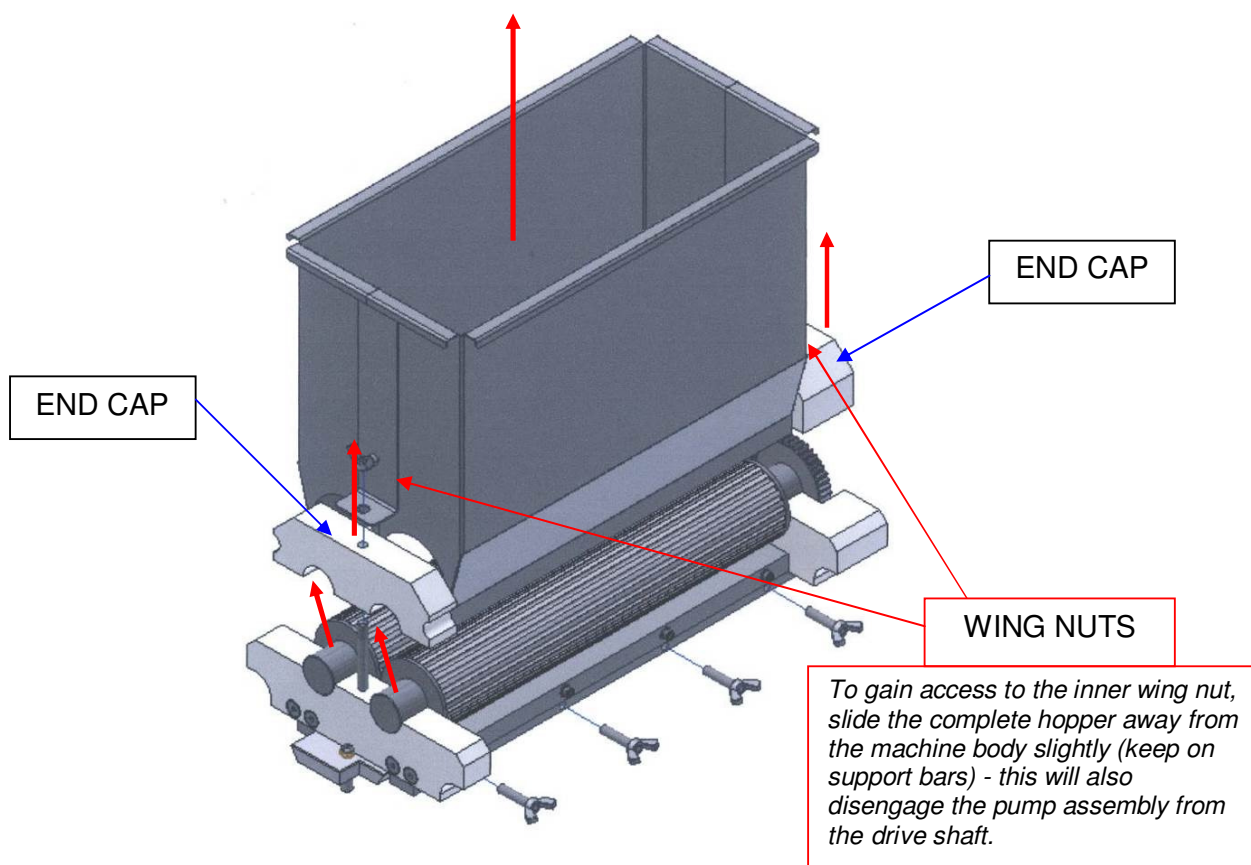
The feed hopper and pump assembly exceeds 25kg and will need to be lifted off by two people, or dismantled into smaller components while still on the machine.

To reduce weight and bulk, separate and remove empty feed hopper from pump assembly, whilst still on the machine, by unscrewing the wing nuts.

(Ensure that the nuts are placed where they will not be lost.)

The pump assembly will now be lighter and more easily removed.

1. Lift off both upper plastic end-caps.
2. Remove both gears from the assembly, one at a time, by lifting vertically.
3. Remove remainder of pump assembly from the machine for cleaning.



NOTE:

Use only warm soapy water to clean these parts. They should be rinsed and thoroughly dried before re-assembly.

The greatest care must be taken not to drop any parts.



Do not leave any components in the hopper.



8.0 OPERATING CONDITIONS

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To obtain the best product results and consistent operation,

- ✓ Make sure the depositor is used on a **level floor**.
- ✓ Ensure **flat trays** of consistent length, width, material and edge dimensions are used.
- ✓ Ensure **undamaged nozzles and templates** are used.
- ✓ Keep the machine **clean**.



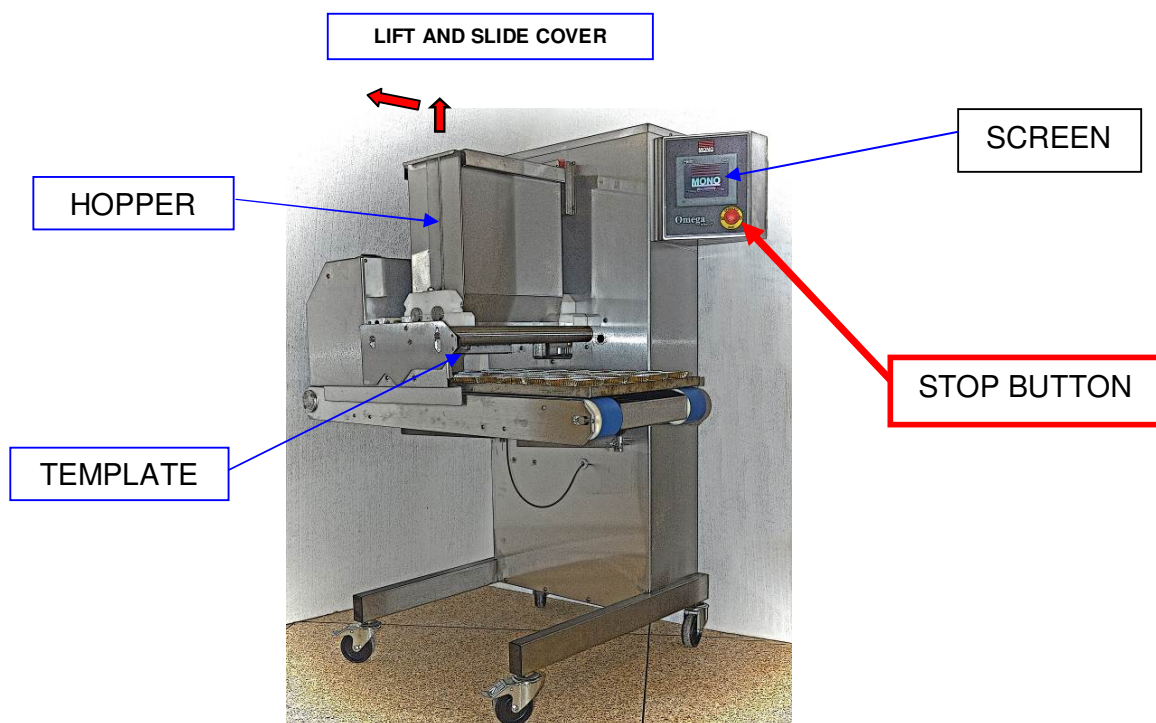
9.0 PREPARING FOR OPERATION

Omega
PLUS

The use of templates and/or accessories not produced or supplied by MONO Equipment will invalidate the machine's warranty

- 1 Select template and nozzles (and finger frame, if wirecut is to be used) and fit as section 9a & 9b (following pages). Fill hopper with mix and close hopper cover.

It is recommended that when heavy mixes are used, the inside of the hopper should be coated with vegetable oil; for lighter mixes such as meringue, dampen with water. The oil or water will help the mix to settle down the hopper walls and prevent air being sucked in.



- 2 Connect power cable to electrical supply.
Make sure stop button is in released position (turn clockwise if required).
- 3 Select an existing program or create a new program through the on-screen menus.
(see section 10 operation)
- 4 The machine is now ready for operation.

9a FITTING THE HOPPER

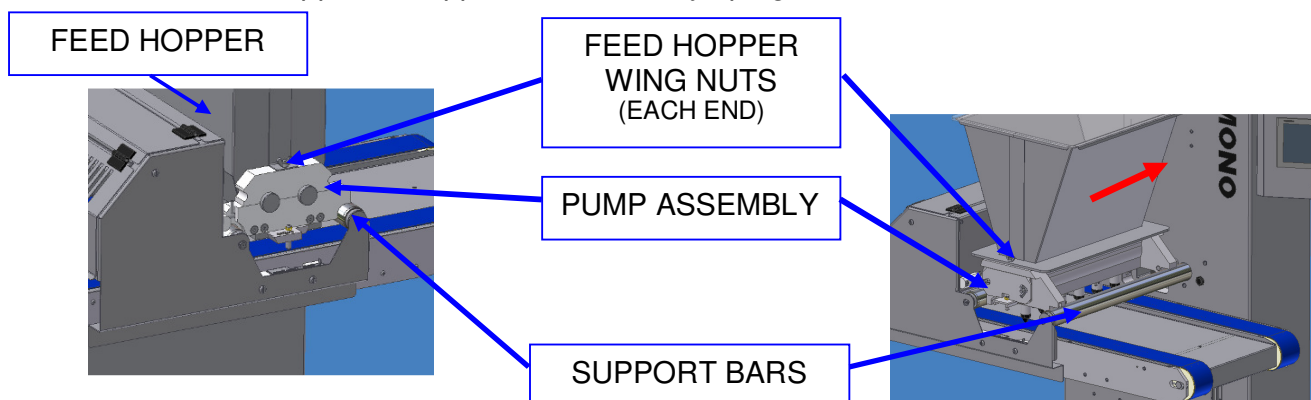


CAUTION SHOULD BE TAKEN WHEN FITTING THE HOPPER AND PUMP ASSEMBLY, AS WEIGHT EXCEEDS 25kgs ON SOME MODELS. It will need to be lifted on by two people, or dismantled into smaller components before fitting on the machine. MAKE SURE THE FLOOR AREA AROUND THE MACHINE IS CLEAN



To reduce weight and bulk, fit the complete hopper assembly in two stages - first the pump assembly onto the support bars, then the feed hopper body onto the pump assembly.

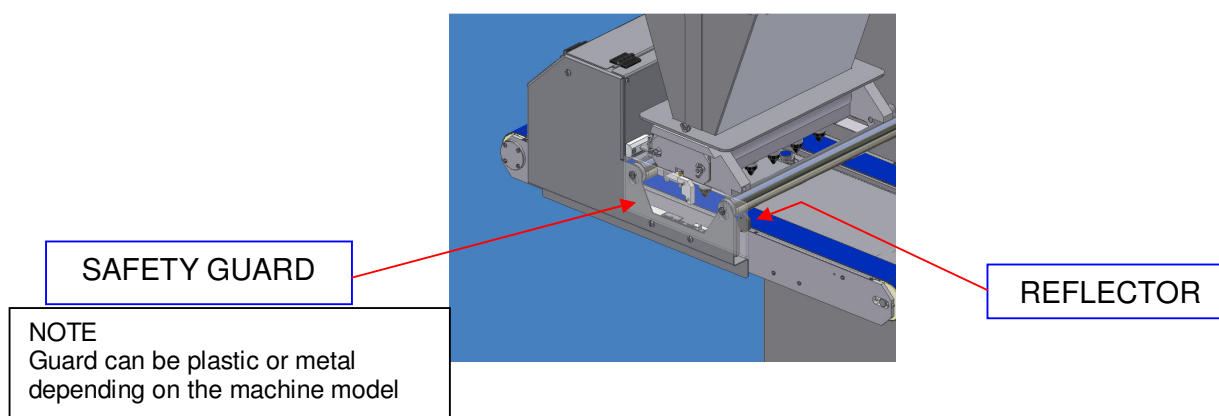
- 1 By hand, align pump assembly drive gear roller with drive shaft on machine.
- 2 Fit hopper to pump assembly and secure with wing nuts.
- 3 Slide hopper on support bars until fully up against machine.



HARD DOUGH

SOFT DOUGH

- 4 After the hopper is fitted, the safety guard **MUST BE** replaced with the reflector facing towards the machine body.



DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED

9b FITTING A TEMPLATE

- **Soft dough**

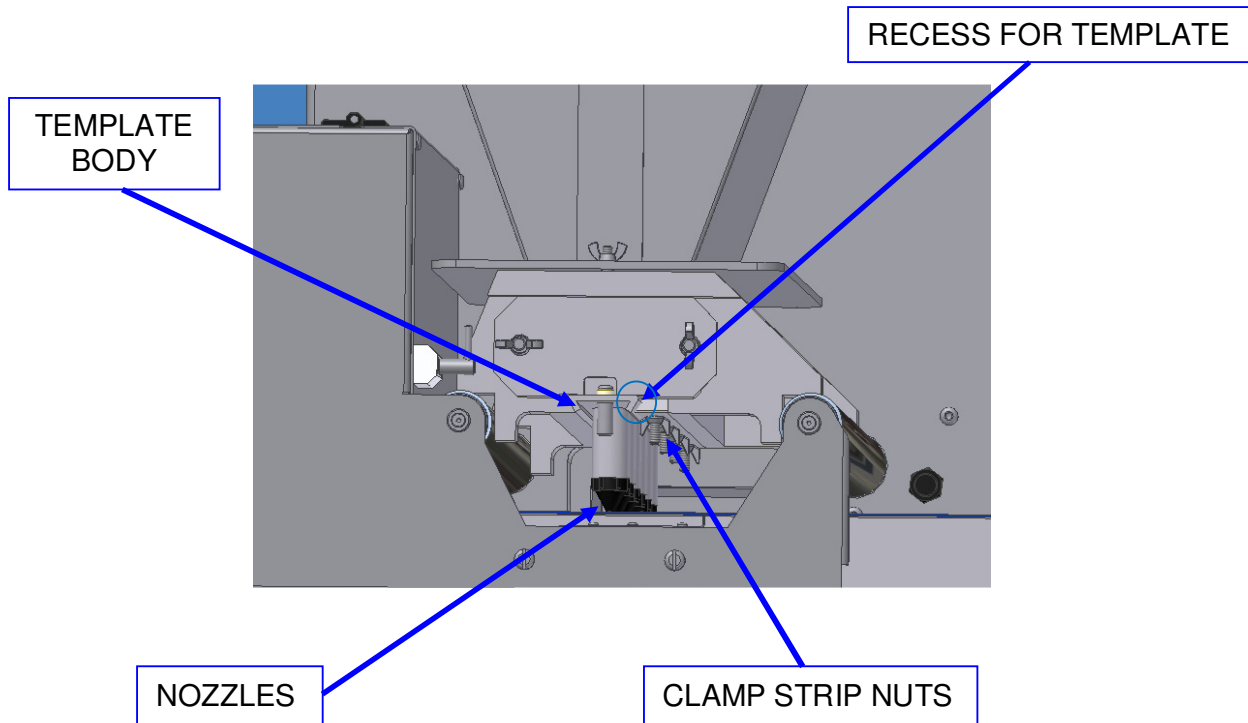
Non-rotary templates can be fitted with nozzles. This requires screwing the nozzles into the threaded holes provided.

Rotary templates can have plastic nozzles screwed into nozzle holders (straight or offset).

OR

Metal nozzles secured in place by a separate nut.

- 1 Select template and nozzles required.
(Nozzles are not required for sheeting, staggered or stub templates)
- 2 Attach nozzles to template body:



- 3 Slide the template into the matching recess at the base of the pump assembly until the stop is in position.
- 4 Tighten the nuts on the clamp strip (on underside of pump assembly) to secure template.

NOTE. If the nuts are not securely tightened, leakage of mix will occur, affecting deposit weights.



DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED

BEFORE USING STRAIGHT & OFFSET NOZZLE HOLDERS

“O” RINGS MUST BE FITTED

Nozzle holders provide the means of attaching standard plastic nozzles to the soft dough rotary templates and the sealing rings need to be fitted before using and may need replacing occasionally to ensure correct operation.

“O” RING PART NUMBER = A900-12-010 (SUPPLIED IN BAGS OF 20)



LOOP FIRST RING OVER END



SLIDE RING DOWN TO GROOVE



FIRST RING IN CORRECT POSITION



LOOP SECOND RING OVER END



SLIDE RING DOWN TO SECOND GROOVE,
PASSING OVER FIRST RING



SECOND RING IN CORRECT POSITION

• Hard dough

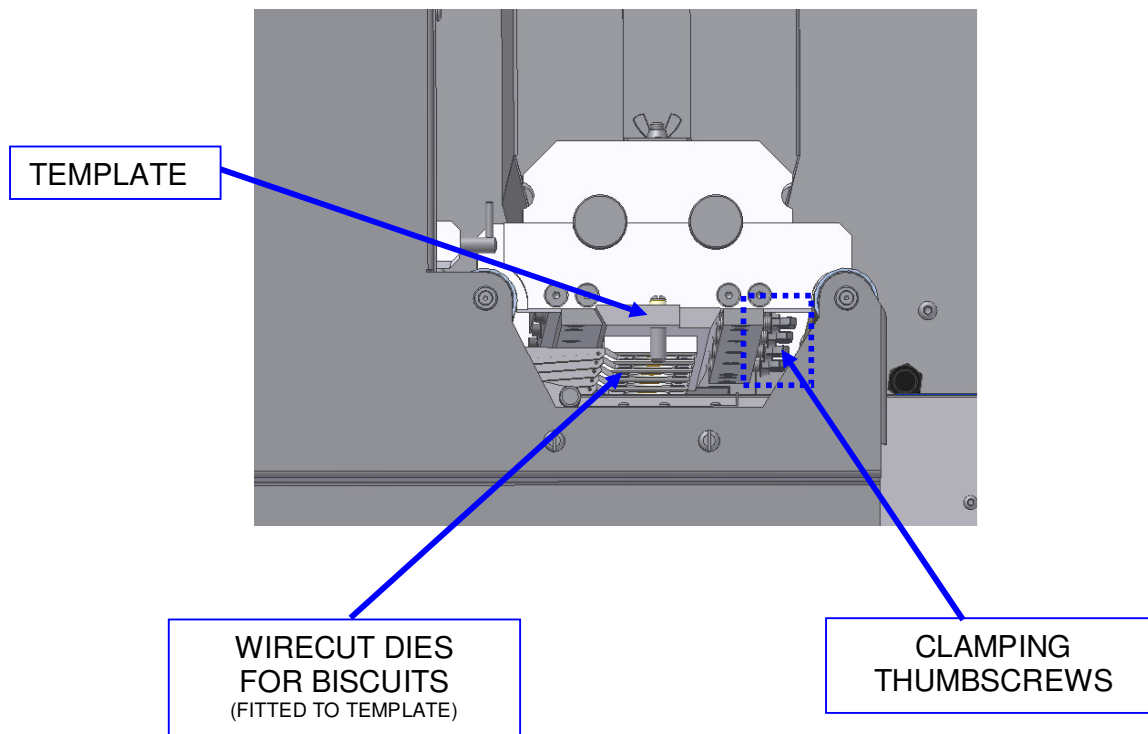
Non-rotary templates that can be fitted with nozzles require them to be secured in place with a separate nut. *Nozzles are not required for sheeting or wirecut templates.*

Rotary templates require nozzles to be secured in place with a separate nut.

- 1 Select wirecut template or template and nozzles required.
- 2 Attach nozzles (if required) to template body using special nut:
- 3 Slide template into position and hand-tighten thumbscrews.

NOTE.

Thumbscrews only need to be released slightly to allow the template to slide away from the pump assembly. If loosened too much, the template will have to be supported while the screws are tightened.

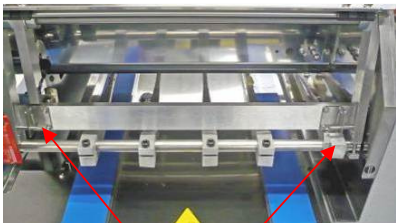


DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED

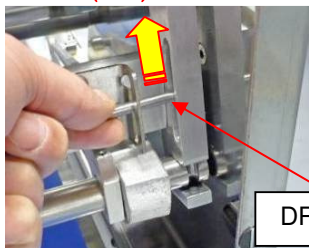
IF WIRECUT IS FITTED

FITTING WIRECUT FINGERS

1. Select wirecut fingers that suit the chosen template to be used.i.e. the correct number to match the number of dies across template.
2. Remove drop arm pins and insert finger frame into arms. Ensure that the follower arm roller is positioned on the cam track.



FOLLOWER ARM
ROLLER

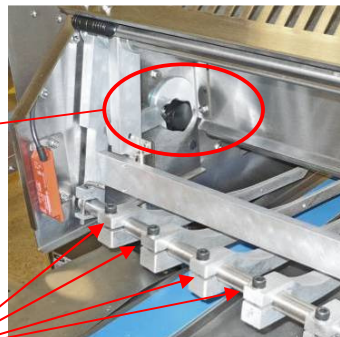


DROP ARM PINS

3. Replace drop arm pins.
4. Disconnect motor release knob and push fingers forward in order to line up the wire with the dies.



MOTOR RELEASE KNOB

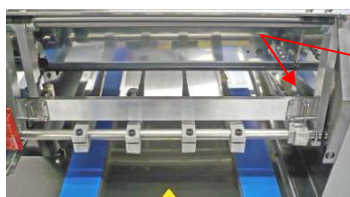


FINGER ADJUSTING BOLTS

5. Adjust individual finger bolts to raise the wire to touch the bottom surface of the dies used in the template.

OR

Adjust the spring loaded screw to raise or lower all fingers at the same time.

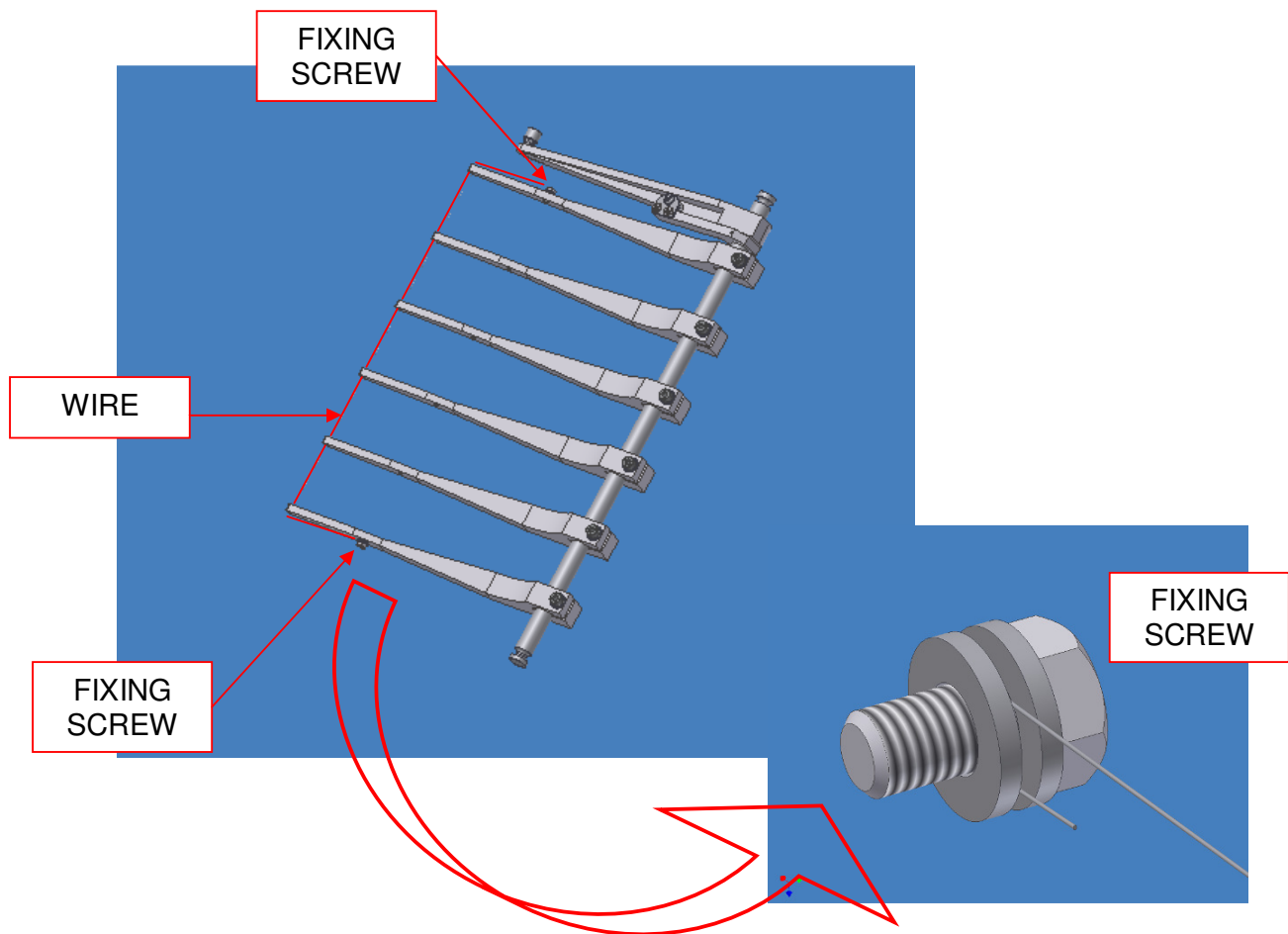


SPRING LOADED ADJUSTMENT SCREW

REPLACING BROKEN WIRE

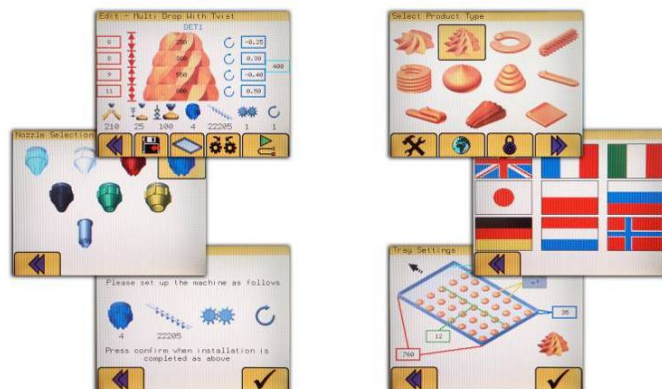
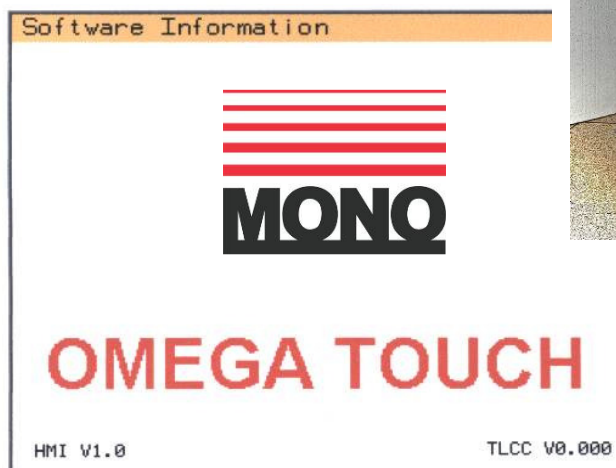
MAKE SURE THAT ALL PIECES OF WIRE HAVE BEEN FOUND BEFORE
OPERATING MACHINE AFTER A WIRE REPLACEMENT.

1. Remove wirecut fingers from the machine.
2. Remove all parts of broken wire
3. Feed new wire round fixing screw, between washers and tighten screw.
4. Feed the wire through the eyehole in the end of each finger.
5. Feed new wire round other fixing screw, between washers. Pull wire tight and tighten screw. (wire should be like a guitar string).
6. Replace the fingers back in the machine and check set up and operation.



10.0 'OMEGA PLUS' OPERATION

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PLUS



ALL OPERATIONS ARE ACTIVATED BY TOUCHING AREAS ON THE SCREEN WITH A FINGER.
DO NOT USE EXCESSIVE FORCE OR HARD OBJECTS AS THIS WILL INVALIDATE MACHINE WARRANTY.

OPERATING KEY FOR FOLLOWING INSTRUCTIONS

BLUE = OPERATION

FOLLOW BLUE ARROWS AND BOXES TO
OPERATE THE DEPOSITOR WITH ALREADY
SAVED PROGRAMS

RED = CHANGE SETTINGS

FOLLOW RED ARROWS AND BOXES TO
CHANGE SETTINGS AND CREATE NEW
PROGRAMS

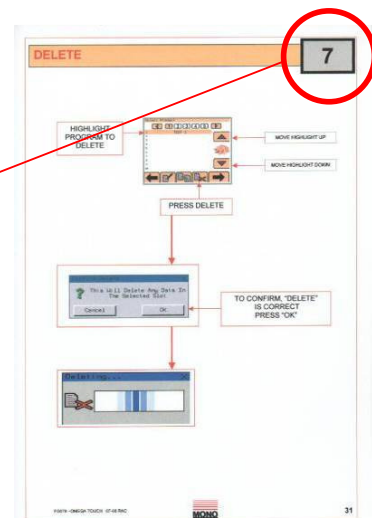
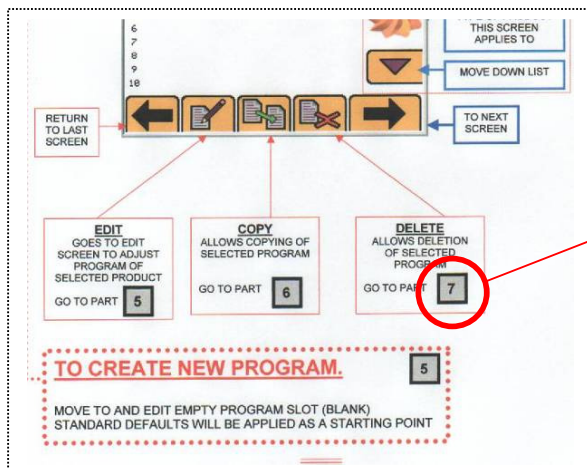


**= KEYBOARD ENTRY
REQUIRED**

WHEN KEYBOARD APPEARS, A CODE
MUST BE ENTERED BY TOUCHING THE
NUMBERS IN THE CORRECT ORDER

IF A GREY BOX IS SHOWN IN THE BUTTON DESCRIPTION
e.g. **7** GO TO THE CORRESPONDING PAGE FURTHER
ON IN THE INSTRUCTIONS.

(MARKED IN TOP RIGHT HAND CORNER OF EACH PAGE)



START

To turn on the machine, plug in the power cord and turn on the power supply.



This screen will be seen. Wait for the following screen to be displayed.



When this screen appears the machine is ready for operation. Touch the screen anywhere to start setup and operation.

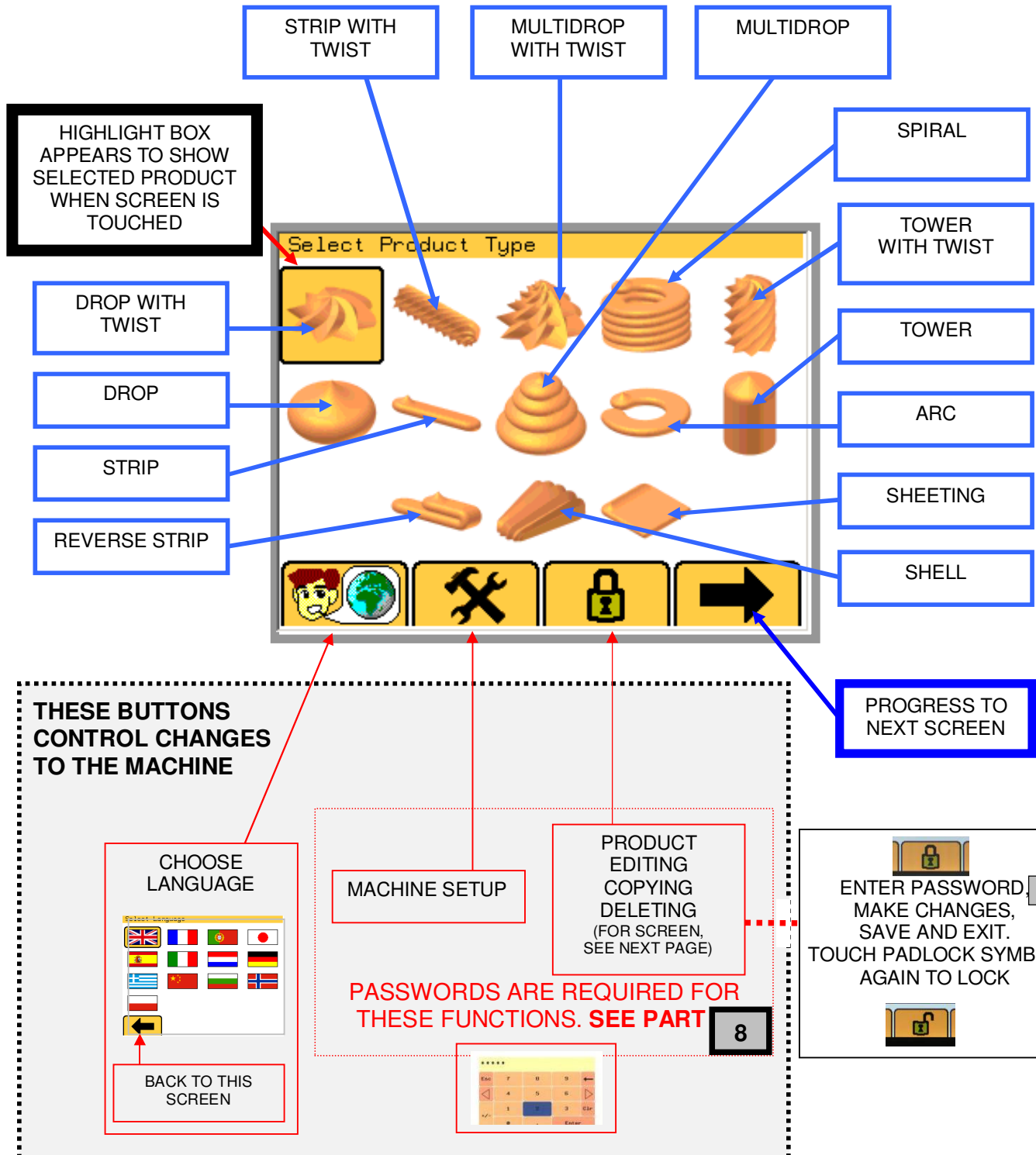
SELECT PRODUCT TYPE

1

SELECT PRODUCT TO DEPOSIT OR TO CREATE A NEW PROGRAM

ALL OPERATIONS ARE ACTIVATED BY TOUCHING AREAS ON THE SCREEN WITH A FINGER.
DO NOT USE EXCESSIVE FORCE OR HARD OBJECTS AS THIS WILL INVALIDATE MACHINE WARRANTY.

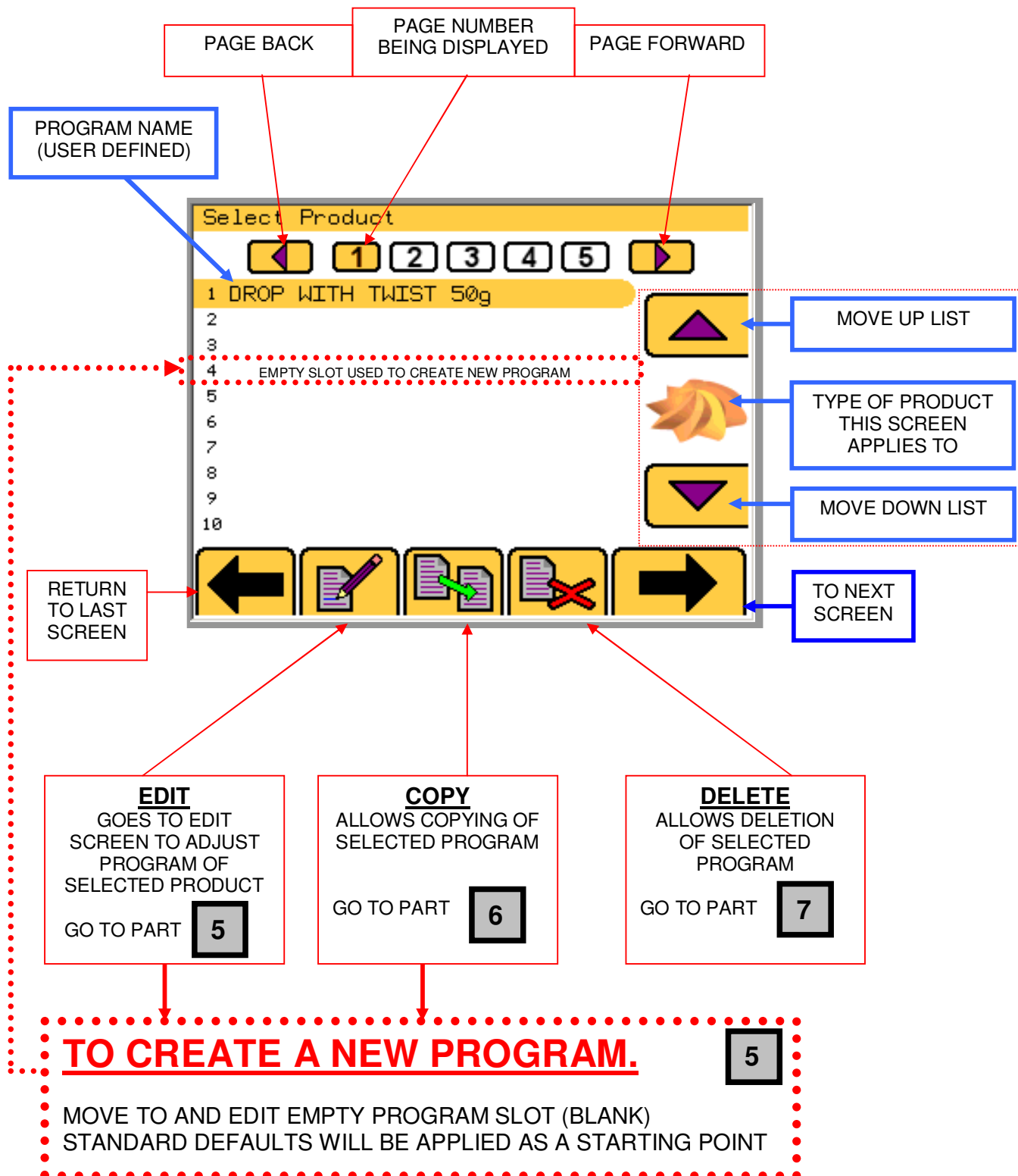
**TOUCH THE SCREEN FOR THE TYPE OF PRODUCT REQUIRED
THEN → TO MOVE TO THE NEXT SCREEN**



SELECT SAVED PRODUCT TYPE

OR CHOOSE EMPTY SLOT TO CREATE A NEW PROGRAM

2



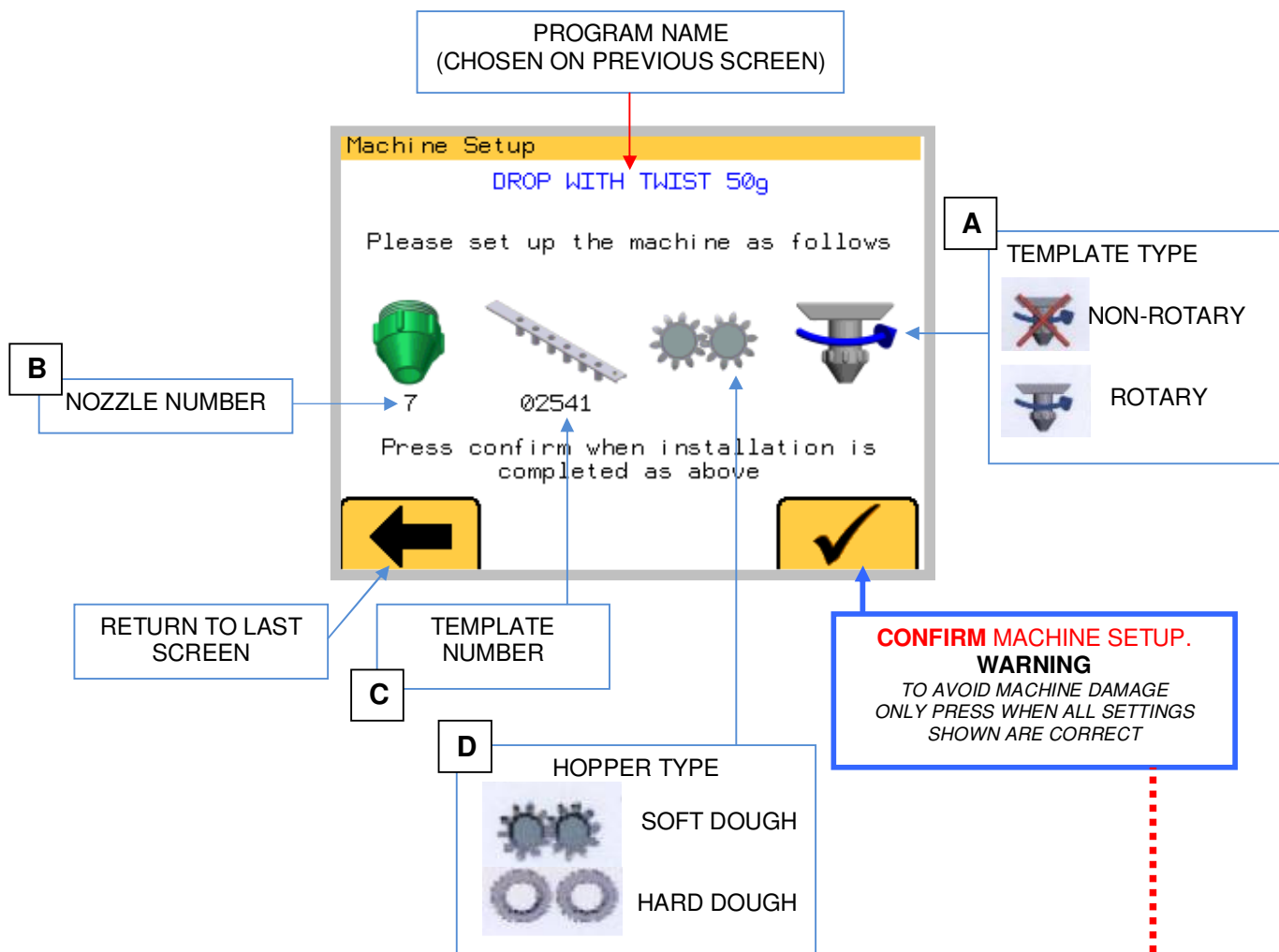
CONFIRM SETUP OF MACHINE

3

MACHINE MUST BE SET AS SHOWN ON THE SCREEN.

- A. Check template type (Rotary/Non-rotary)
- B. Check nozzle type (Number)
- C. Template number
- D. Check hopper type (Soft dough/Hard dough)

THEN PRESS CONFIRM BUTTON.



TO AVOID MACHINE DAMAGE
ONLY PRESS CONFIRM BUTTON WHEN ALL PARTS ATTACHED TO THE MACHINE
ARE AS SHOWN ON THE SCREEN

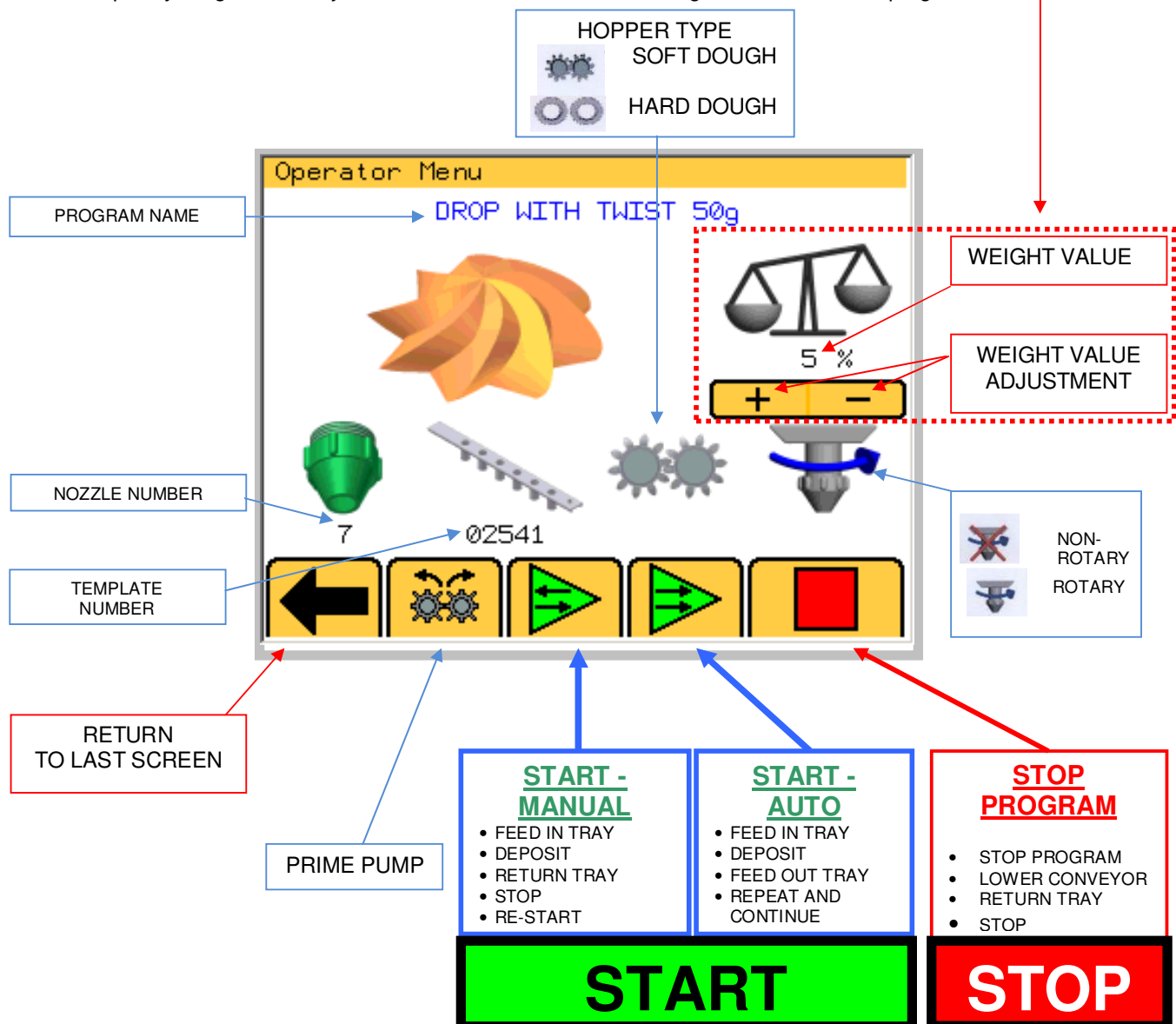
OPERATOR (START) SCREEN

4

MACHINE SHOULD BE SET AS SHOWN ON THE SCREEN.
THIS SCREEN CONTROLS THE ACTIONS REQUIRED BY THE OPERATOR.

1. Fill the hopper with the required product.
2. If the settings are correct, press the prime button to deposit a small amount onto a spare tray until all nozzles are depositing equally.
3. Place tray in place
4. Press “start-manual” or “start-auto”.
5. Press “stop” at any time to stop the program, lower the conveyor and return the tray.

Note: Temporary weight value adjustments can be made but the setting is not saved in the program.



EDIT AND SAVE SCREEN

5

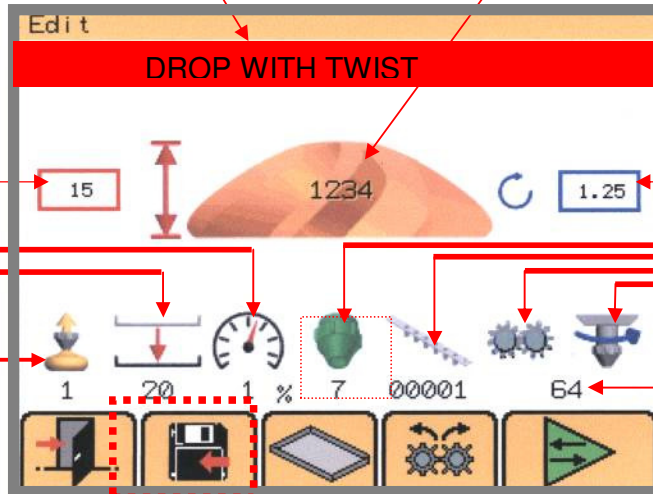
EXAMPLE: DROP WITH TWIST

PROGRAM NAME
MUST BE ENTERED TO
ALLOW PROGRAM TO SAVE

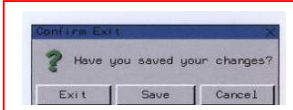
PRODUCT QUANTITY
THIS IS A SETTING NUMBER AND
DOES NOT INDICATE A MEASURE OF
ACTUAL VOLUME

NOZZLE HEIGHT (mm)
ABOVE TRAY SURFACE

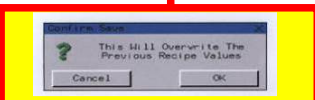
NOZZLE ROTATIONS
NUMBER OF TURNS
DURING A DEPOSIT CYCLE



EXIT THIS SCREEN



SAVE EDITS



**SUCK BACK
QUANTITY**

**TABLE
JOG DISTANCE (mm)**

**OVERALL
MACHINE SPEED
(% OF MAXIMUM)**

ENTER
TRAY
SETUP
SCREEN

GO TO PART
5A

**MAX HEIGHT FOR
HOPPER/TEMPLATE
COMBINATION**

**START
MANUAL MODE**

PRIME PUMP
(SOFT DOUGH SHOWN)

TEMPLATE TYPE
ROTARY
NON-ROTARY

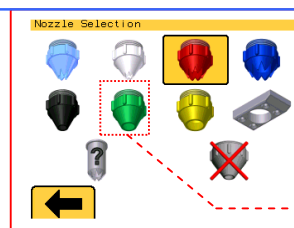
SELECT HOPPER
HARD DOUGH
SOFT DOUGH

TEMPLATE NUMBER
ENTER VIA KEYPAD
THAT APPEARS WHEN
PRESSED

NOTE

**A RED BACKGROUND TO
ANY SETTING MEANS THAT
THE VALUE MUST BE
CORRECTED
BEFORE STARTING**

CHOOSE NOZZLE TYPE



**EXAMPLE:
MULTIDROP WITH
TWIST**

DEPOSIT QUANTITY FOR EACH LAYER

SETTING ERROR INDICATOR
BOXES TURN RED WHEN INCORRECT SETTING MADE

NOZZLE HEIGHT (mm) FOR EACH LAYER

NOZZLE HEIGHT (mm) FROM TRAY SURFACE

NUMBER OF TURNS FOR EACH LAYER (-VE VALUES POSSIBLE)

PRIME PUMP (HARD DOUGH SHOWN)

OTHER SETTING BUTTONS ARE THE SAME AS LAST PAGE

**EXAMPLE:
SHEETING / STRIP**

DEPOSIT QUANTITY FOR BEGINNING OF PRODUCT

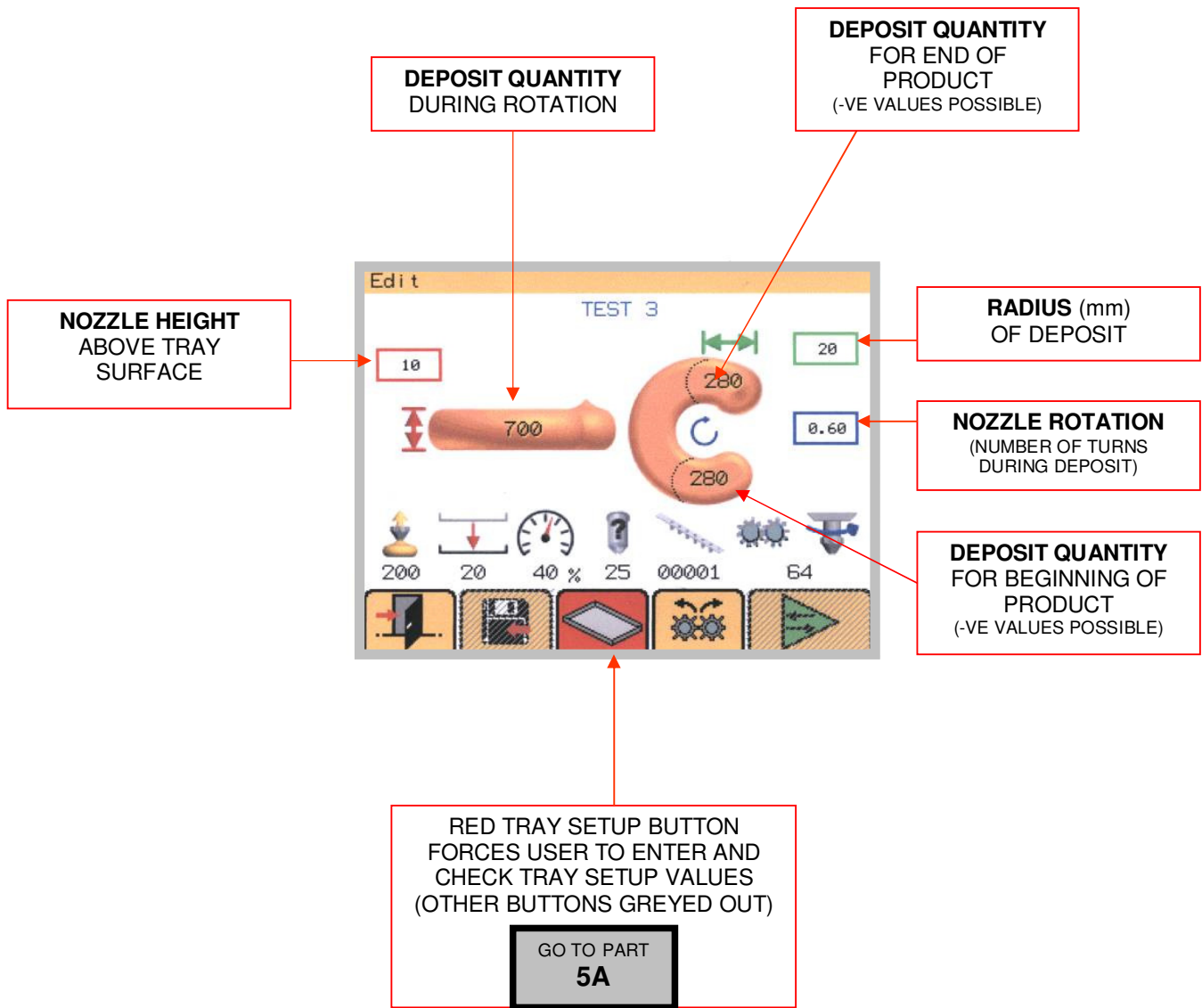
DEPOSIT QUANTITY FOR LENGTH

DEPOSIT QUANTITY FOR END OF PRODUCT (-VE VALUES POSSIBLE)

NOZZLE HEIGHT ABOVE TRAY SURFACE

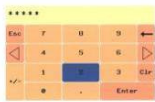
LENGTH (mm) OF TRAY MOVEMENT

**EXAMPLE:
“C” SHAPE
(ARC)**

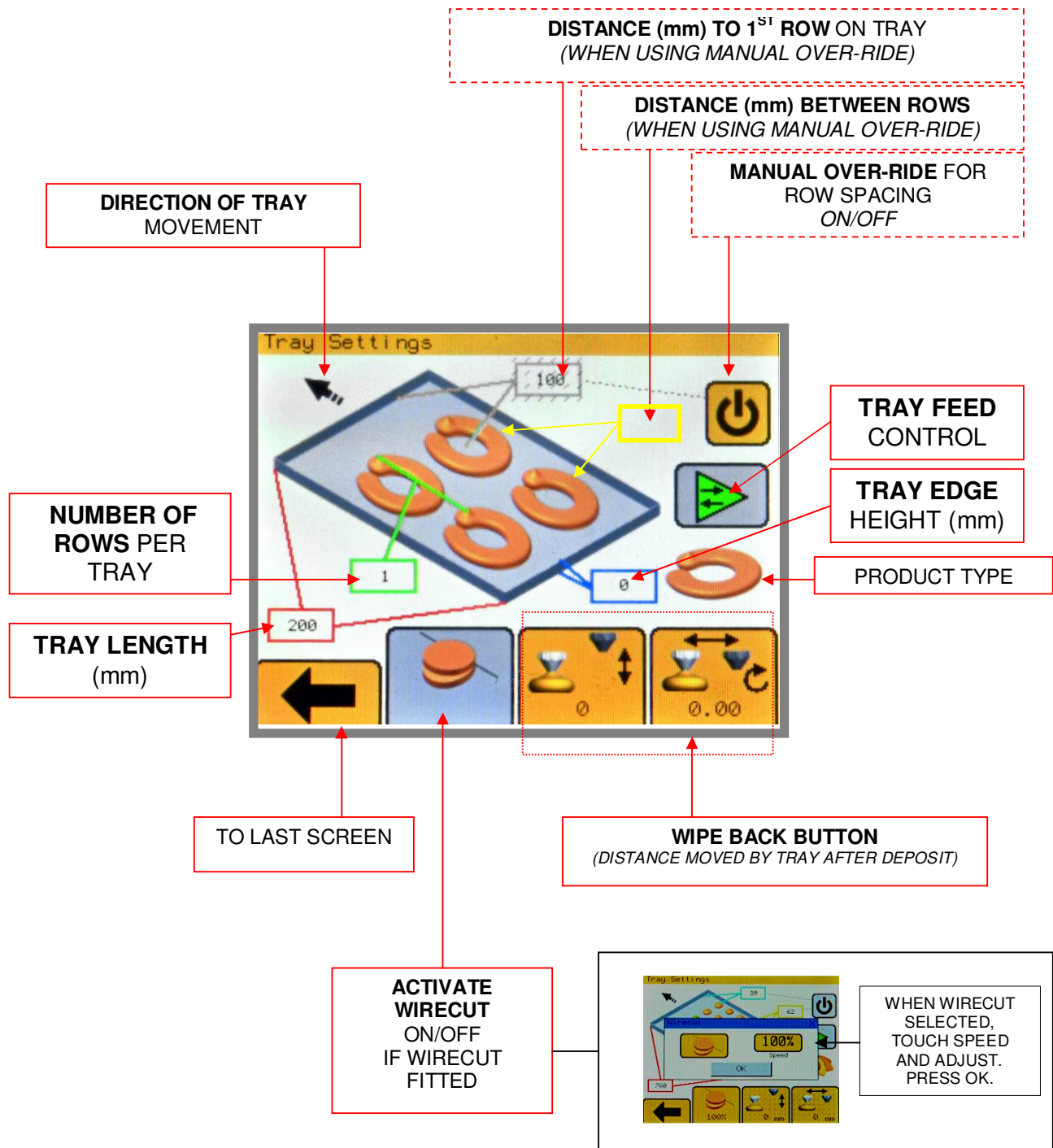


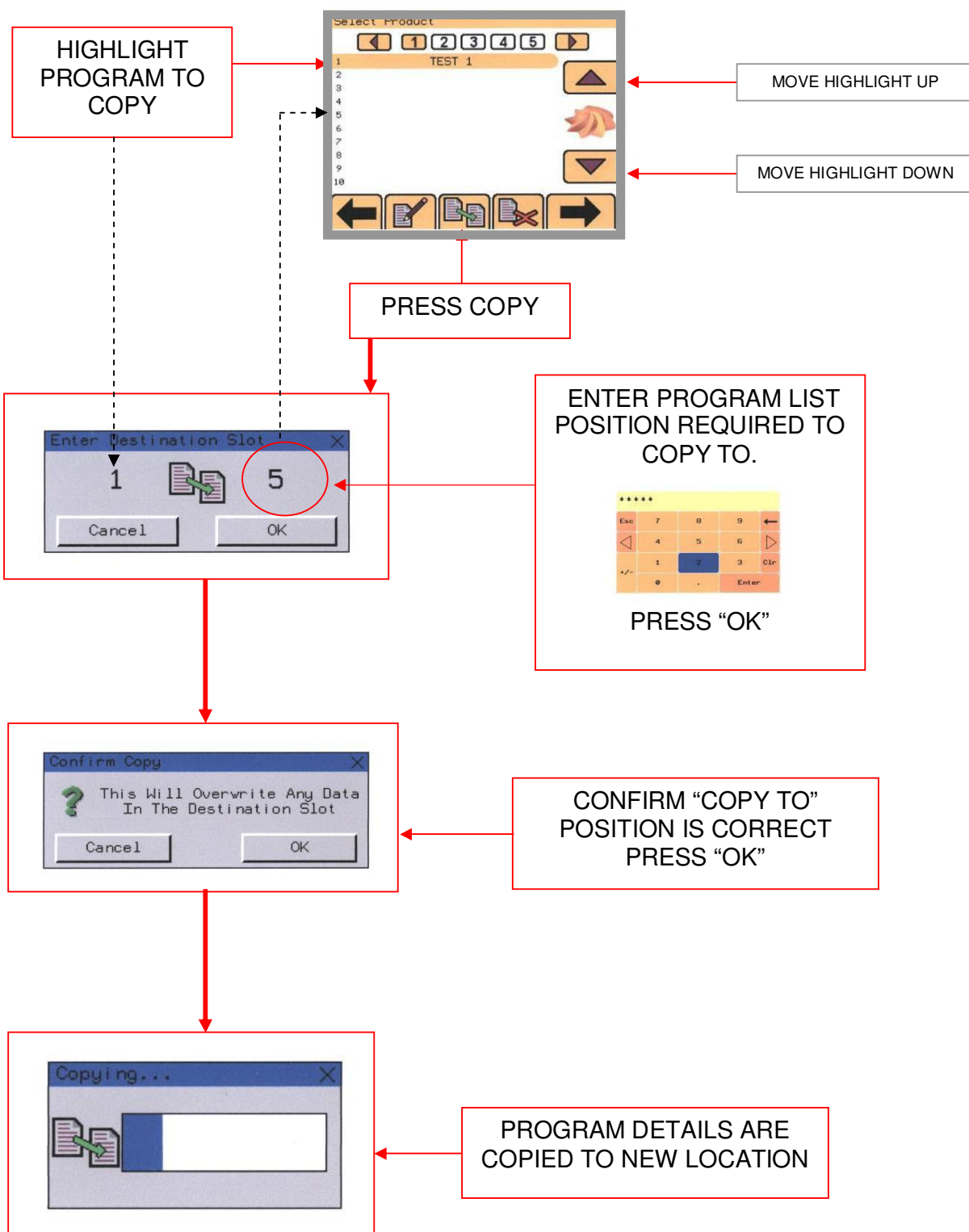
TRAY SETUP

5A



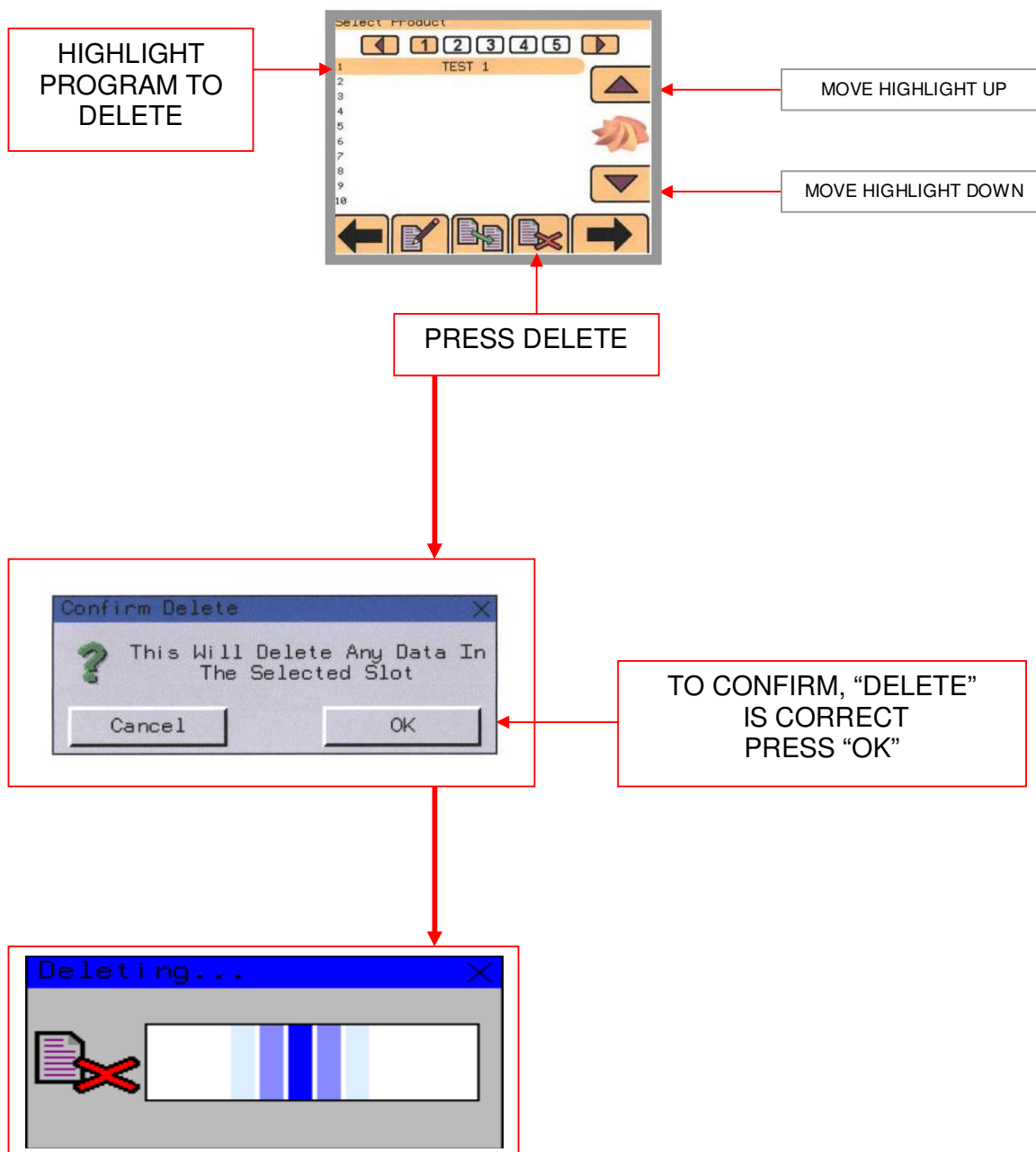
TOUCH WINDOWS AND ENTER VALUES VIA KEYPAD





DELETE

7



PASSCODES

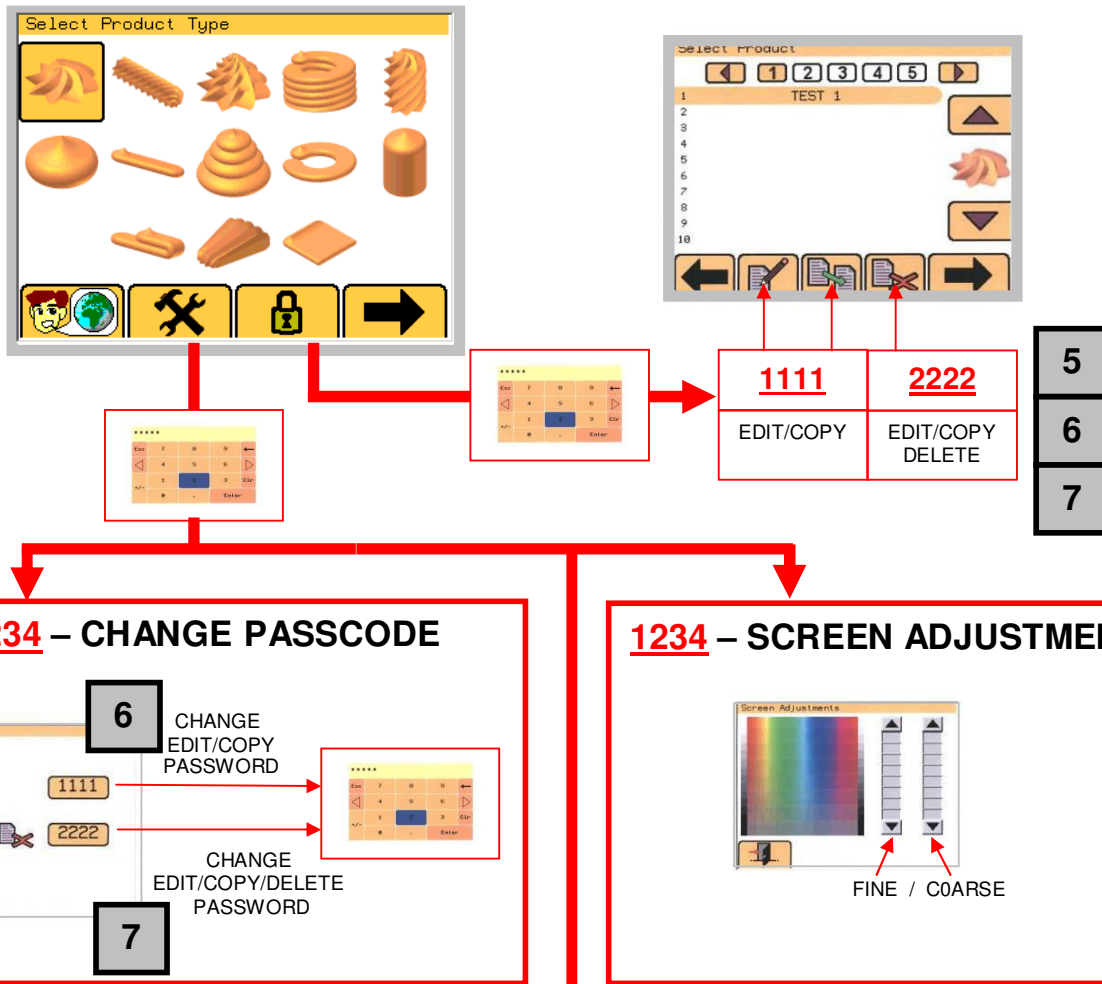
8

SUGGESTION

To stop unauthorised changes to the Omega setup, it is suggested that this page is removed from this manual and kept in a safe place for future reference.
If tampering could be a problem, It is also a good idea to change the passcodes at regular intervals.

CAUTION

DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS

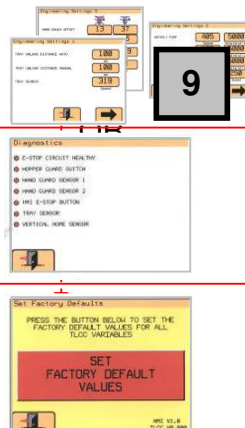


THIS SECTION IS FOR TRAINED ENGINEERS ONLY

3142 -- ENGINEERING SETTINGS

2808 -- DIAGNOSTICS

RESET FACTORY DEFAULTS
01554777460



ENGINEERING SETTINGS (1)

9_{/1}

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

The screenshot shows the 'Engineering Settings 1' screen with the following settings and navigation options:

- TRAY UNLOAD DISTANCE MANUAL:** 100 MM. Callout: IN MANUAL MODE: DISTANCE THE LEADING EDGE OF THE TRAY IS BROUGHT BACK PASSED THE TRAY SENSOR, WHEN RETURNING TO OPERATOR.
- TRAY SEARCH:** 320 Speed. Callout: SPEED VALUE THAT TRAY IS FED UP TO TRAY SENSOR.
- TRAY SEARCH TIME-OUT:** 3 Minutes. Callout: TRAY SEARCH TIMEOUT.
- TRAY REFERENCE MODE:** EDGE. Callout: HOME OR EDGE.
- EXIT THIS SCREEN:** Represented by a button with a left-pointing arrow.
- GO TO NEXT SCREEN ENGINEERING SETTING 2 (NEXT PAGE):** Represented by a button with a right-pointing arrow.

Two small inset images show a numeric keypad with the 'Enter' key highlighted, indicating that the values for TRAY UNLOAD DISTANCE MANUAL, TRAY SEARCH, and TRAY SEARCH TIME-OUT are entered using this keypad.

CAUTION

DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS

ENGINEERING SETTINGS (2)

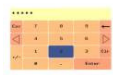
9/2

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

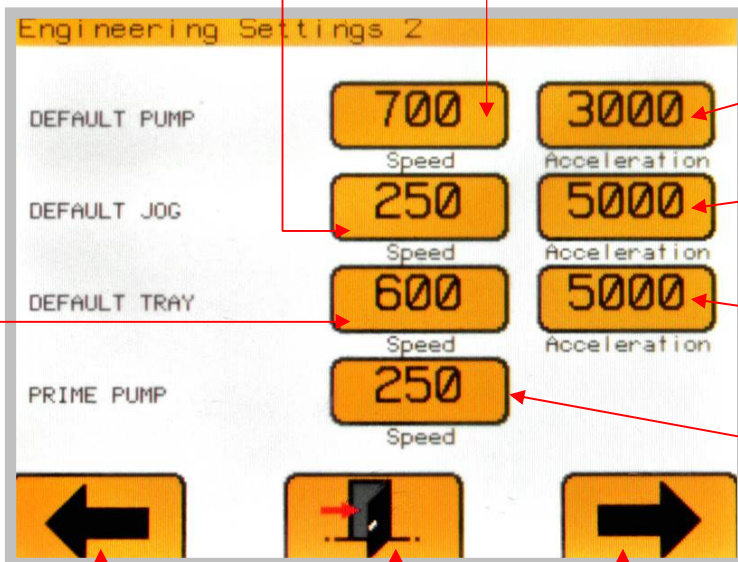
DEFAULT
TRAY SPEED
(MOVEMENT BETWEEN ROWS)



DEFAULT
JOG SPEED
(VERTICAL AFTER DEPOSIT)



DEFAULT SPEED OF PUMP
(100% VALUE IN PRODUCT SETUP PROGRAM)



DEFAULT
ACCELERATION
FOR PUMP



DEFAULT
ACCELERATION
FOR JOG



DEFAULT
ACCELERATION
FOR TRAY



PUMP SPEED
WHEN USING
PRIME BUTTON



EXIT
THIS SCREEN

GO TO PREVIOUS SCREEN
ENGINEERING SETTING 1
(PREVIOUS PAGE)

GO TO NEXT SCREEN
ENGINEERING SETTING 3
(NEXT PAGE)

CAUTION

DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS

ENGINEERING SETTINGS (3)

9/3

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

OFFSET HEIGHT VALUE (mm)
**HARD DOUGH HOPPER
NON-ROTARY TEMPLATE**

OFFSET HEIGHT VALUE IS
FACTORY SET AND SHOULD NOT
BE CHANGED UNLESS
INSTRUCTED TO DO SO.
**DAMAGE TO THE MACHINE
COULD OCCUR**

OFFSET HEIGHT VALUE (mm)
**HARD DOUGH HOPPER
ROTARY TEMPLATE**

OFFSET HEIGHT VALUE (mm)
**SOFT DOUGH HOPPER
ROTARY TEMPLATE**

OFFSET HEIGHT VALUE (mm)
**SOFT DOUGH HOPPER
NON-ROTARY TEMPLATE**

DISTANCE (mm) FROM **HARD**
DOUGH HOPPER DEPOSITING
CENTRELINE TO TRAY EDGE
DETECTION POINT
(USED IN ROW SPACING CALCULATIONS)

DISTANCE (mm) FROM **SOFT**
DOUGH HOPPER DEPOSITING
CENTRELINE TO TRAY EDGE
DETECTION POINT
(USED IN ROW SPACING CALCULATIONS)

EXIT
THIS SCREEN

GO TO PREVIOUS SCREEN
ENGINEERING SETTING 2
(PREVIOUS PAGE)

GO TO NEXT SCREEN
ENGINEERING SETTING 4
(NEXT PAGE)

Engineering Settings 3

Setting	Non-Rotary Template (mm)	Rotary Template (mm)
HARD DOUGH OFFSET	13	37
SOFT DOUGH OFFSET	0	16
HARD DOUGH CENTRE LINE OFFSET	-19	
SOFT DOUGH CENTRE LINE OFFSET	0	

Navigation buttons: Left arrow, Exit icon, Right arrow.

CAUTION

**DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE
FULLY AWARE OF THE RESULTS**

ENGINEERING SETTINGS (4)

9/4

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

GEARBOX RATIOS

The screenshot shows the 'Engineering Settings 4' screen with the following settings:

Setting	Value 1	Value 2
PUMP GEARBOX RATIO	28	1
TRAY GEARBOX RATIO	10	1
JOG GEARBOX RATIO	15	1
ROTARY GEARBOX RATIO	10	1

Navigation buttons at the bottom:

- Left arrow: GO TO PREVIOUS SCREEN ENGINEERING SETTING 3 (PREVIOUS PAGE)
- Center button with exit icon: EXIT THIS SCREEN
- Right arrow: GO TO NEXT SCREEN ENGINEERING SETTING 5 (NEXT PAGE)

Labels on the right side of the screen:

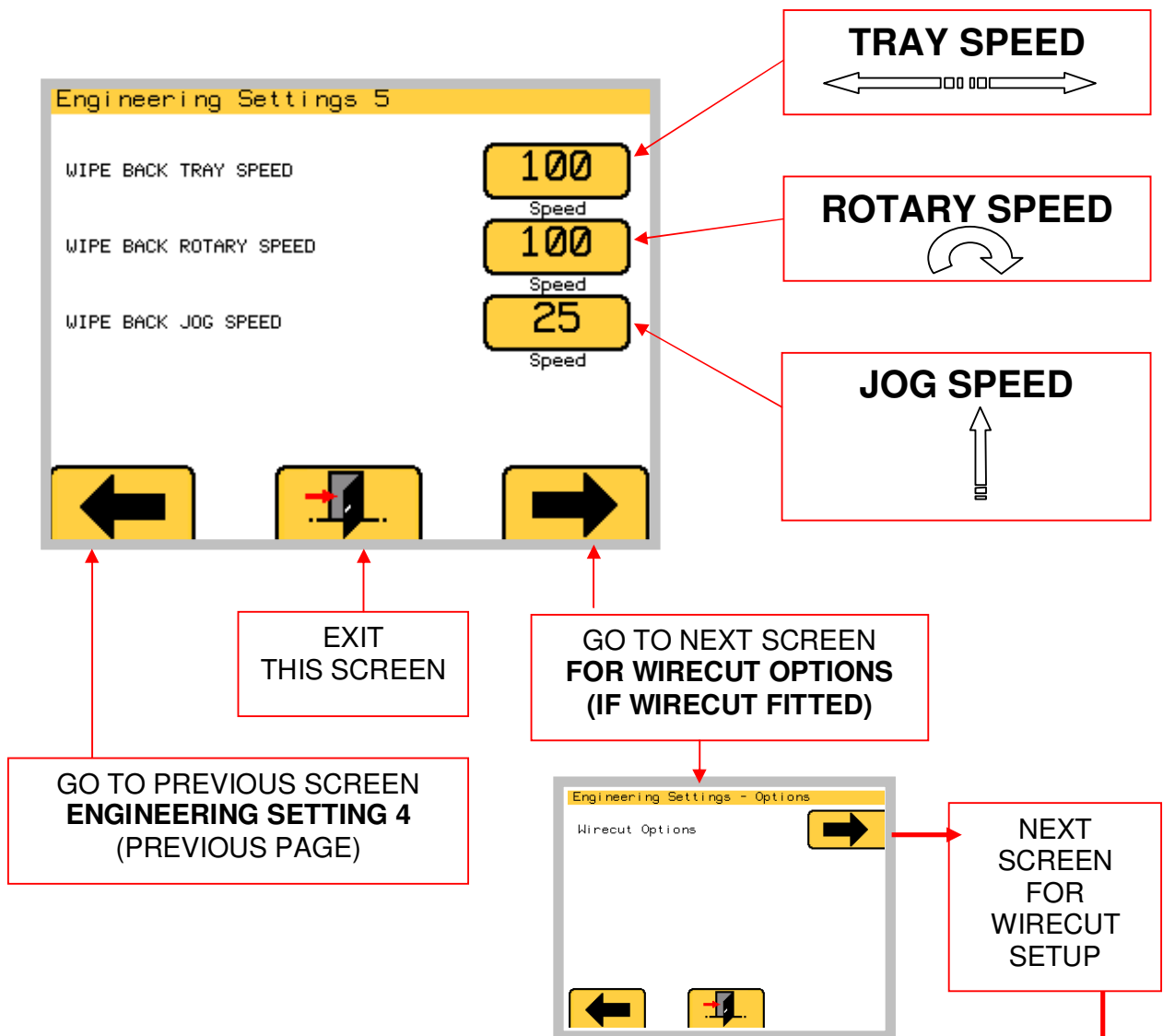
- PUMP
- TRAY
- JOG
- ROTARY

CAUTION

DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

WIPE BACK DEFAULT SETTINGS (SEE 5A)

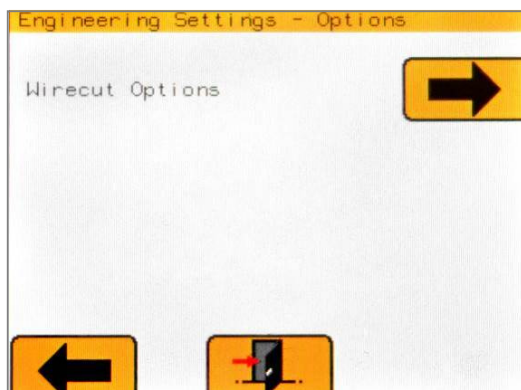


CAUTION

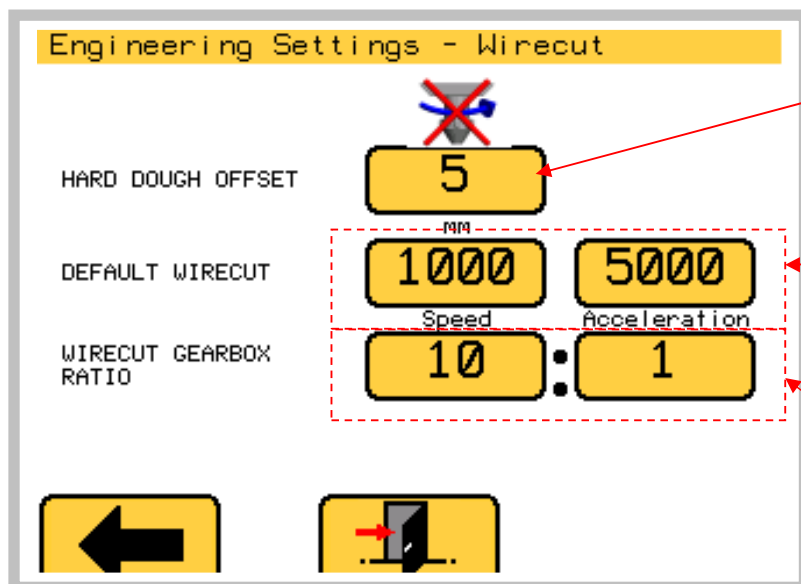
DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS

NEXT PAGE

WIRECUT SETTINGS



**PROCEED TO
WIRECUT
SETTINGS PAGE**



**HARD DOUGH
OFFSET**

**WIRECUT
SPEED +
ACCELERATION**

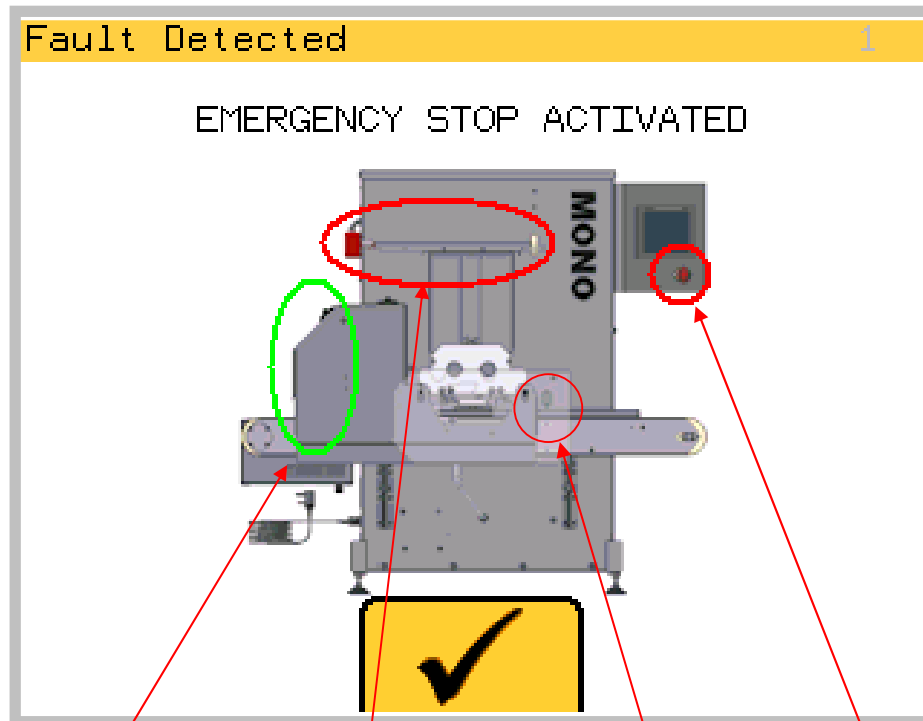
**WIRECUT
GEARBOX RATIO**

**EXIT
ENGINEERING
SETTINGS**

**GO TO PREVIOUS SCREEN
ENGINEERING SETTING 4
(PREVIOUS PAGE)**

CAUTION

**DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE
FULLY AWARE OF THE RESULTS**



WIRECUT COVER
(IF FITTED)

HOPPER COVER

SAFETY BEAM


STOP BUTTON

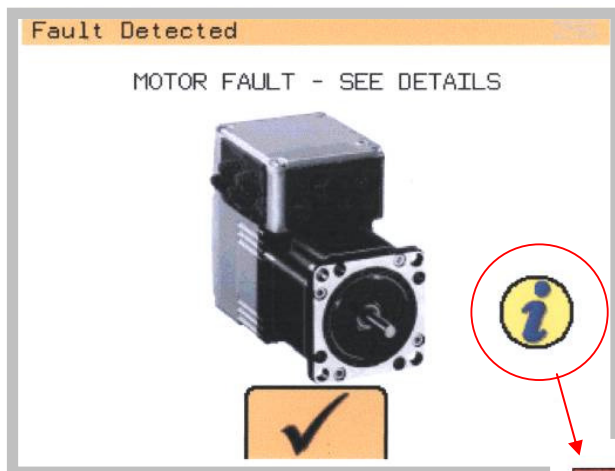
THIS SCREEN INDICATES A FAULT CONDITION IN THE SAFETY AREAS.

WHEN **RED**, CLOSE COVER OR CLEAR OBSTRUCTIONS TO CLEAR FAULT.

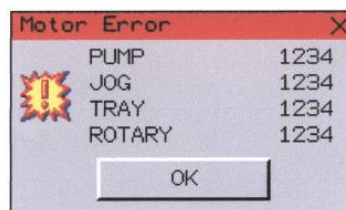
WHEN INDICATOR GOES **GREEN**, FAULT HAS BEEN CORRECTED AT THAT POSITION.

WHEN ALL FAULTS HAVE BEEN CORRECTED, PRESS  BUTTON TO CLEAR SCREEN

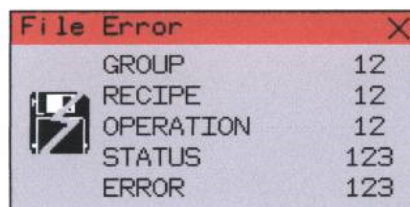
IF THE FOLLOWING SCREEN APPEARS, CHECK THAT THE TABLE MOVEMENT ETC. IS NOT JAMMED WITH SOMETHING. IF IT IS, CLEAR THE OBSTRUCTION AND PRESS  TO PROCEED.



PRESS THIS BUTTON IF MORE INFORMATION IS REQUIRED AS TO WHICH MOTOR IS AT FAULT



IF THE FAULT IS NOT OBVIOUS AND NOT ABLE TO BE CLEARED SAFELY, A SUITABLY TRAINED ENGINEER SHOULD BE CALLED



ERROR WHEN LOADING/SAVING RECIPE DATA TO HMI STORAGE CARD
PLEASE CONTACT SERVICE DEPT. / ENGINEER IF PROBLEM PERSISTS

11.0 MAINTENANCE

Omega PLUS

Under most conditions the machine only needs to be kept clean and used as instructed in this manual.



WARNING: DO NOT UNDER ANY CIRCUMSTANCES USE A WATER HOSE OR PRESSURE WASHER TO CLEAN THIS MACHINE.

Mono Omega Touch

Check and Maintenance Schedule

Operation	Daily	weekly	3 monthly	Yearly
Clean depositor as per instructions in manual	*			
Check condition of supply lead and plug	*			
check fit of guards	*			
Clean under conveyor belts		*		
Check hopper seals		*		
Check end cap seals		*		
Check condition and tension of conveyor, adjust / replace as required			*	
Check end cap bearings			*	
check alignment of sensors on guards			*	
Check tray sensor is secure			*	
Check condition of idle roller bearings				*
Check condition of drive shaft bearings				*
Check condition and tension of chain and grease as required				*
Grease slides as required				*
adjust eccentric guide rollers as required				*
adjust concentric guide rollers as required				*
Check and grease all slide plates as required				*
Check all motor mounts are tight				*
inspect electrical connections and tighten as required				*



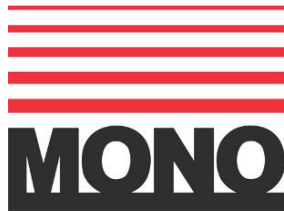
Under no circumstances should maintenance or cleaning of this machine be done with the power connected

12.0 SPARES AND SERVICE

Omega PLUS

If a fault arises, please do not hesitate to contact the
Customer Service Department, quoting the **machine serial number**
on the silver information plate of the machine and on the front cover of this manual

UK SERVICE, SPARES and OVERSEAS SUPPORT:



Queensway
Swansea West Industrial Estate
Swansea.
SA5 4EB
UK

email: spares@monoequip.com
Spares Tel. +44(0)1792 564039
Web site: www.monoequip.com

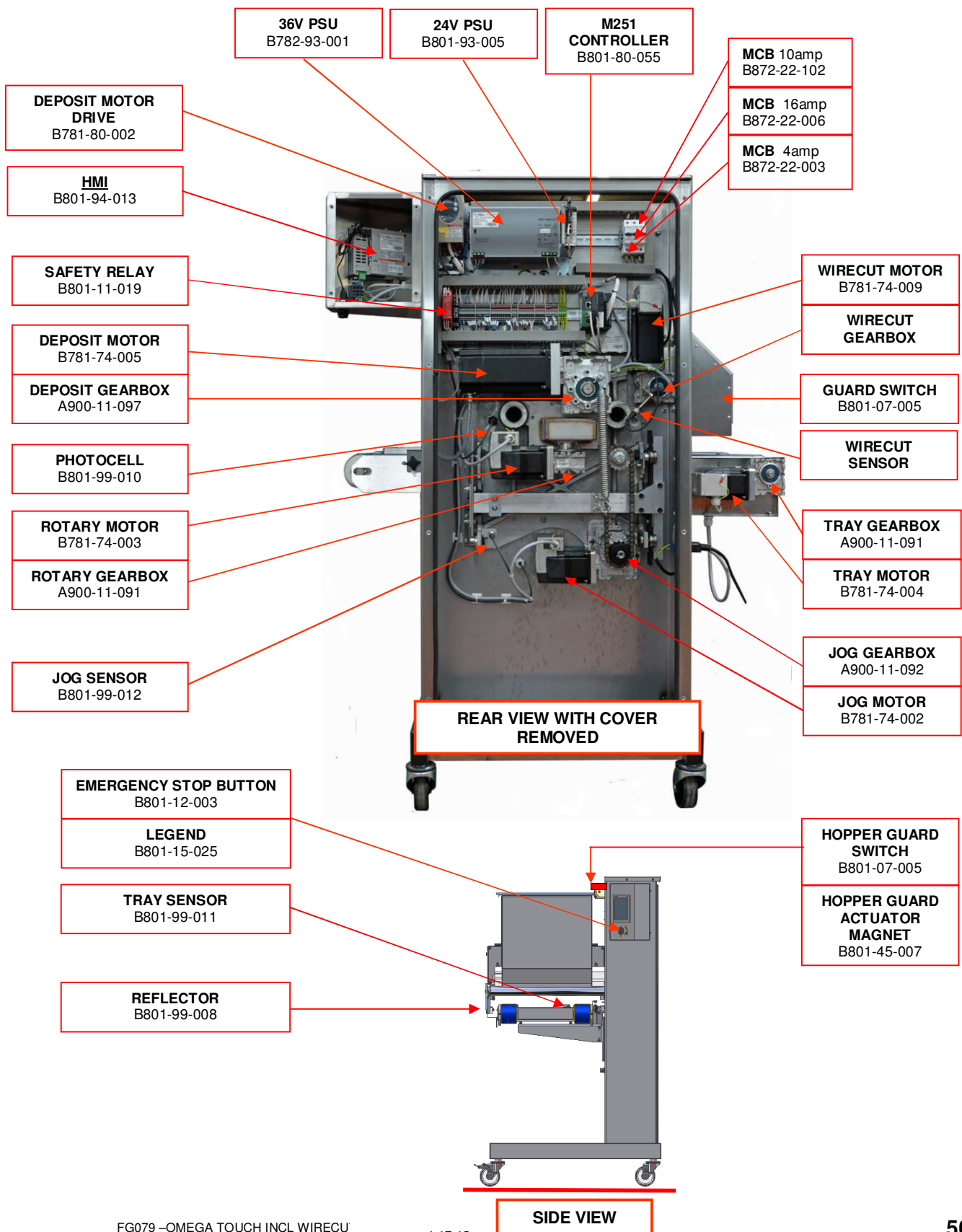
Main Tel. 01792 561234
Fax. 01792 561016

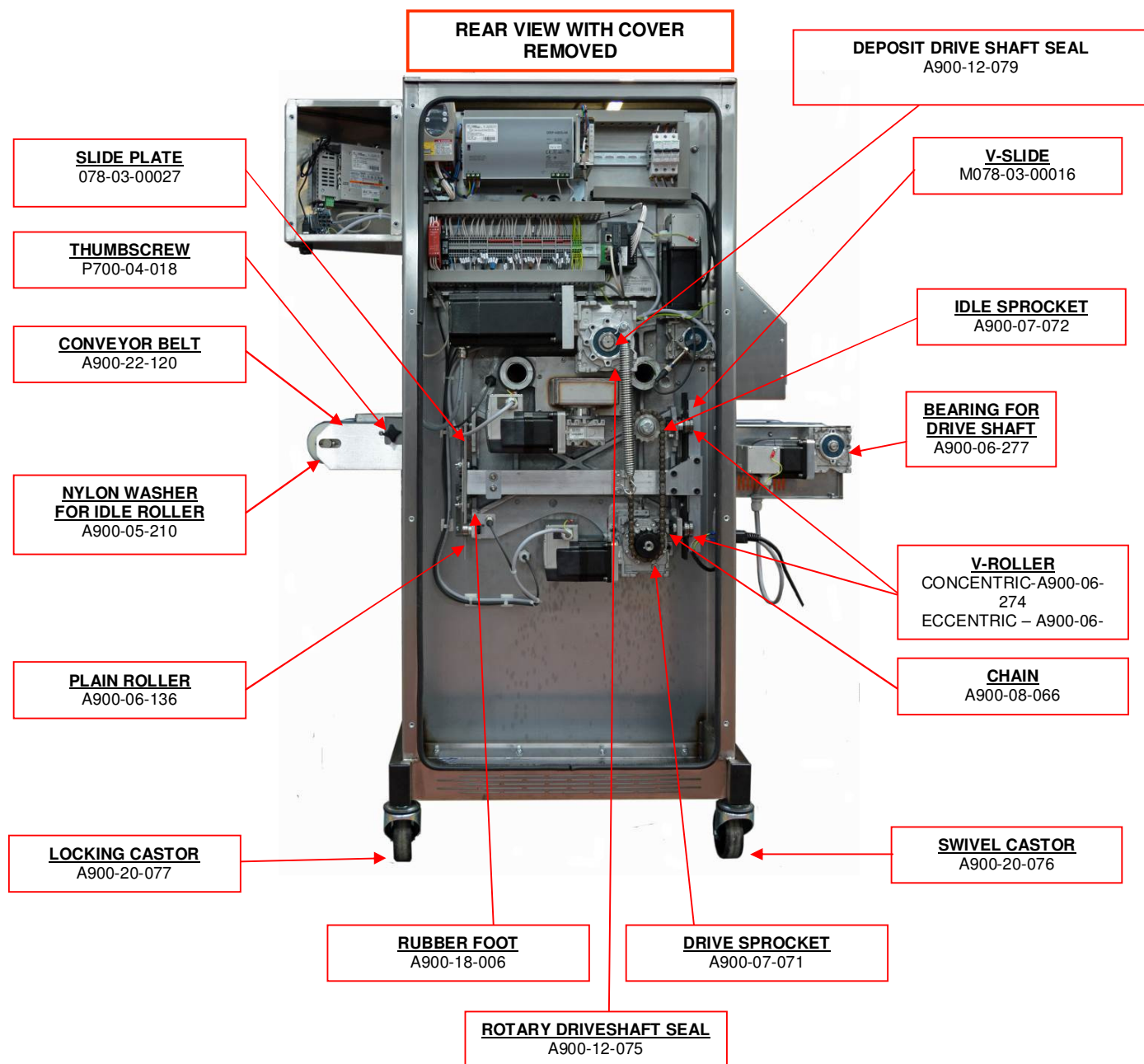
BASE MACHINE SPARES LIST**Omega PLUS -- WIRECUT VERSION**

Spares Item Description	Mono Part No.	Qty Req. per M/C
Deposit Gearbox	A900-11-097	1
Jog Gearbox	A900-11-092	1
Rotary Gearbox	A900-11-091	1
Tray Gearbox	A900-11-091	1
Concentric Guide Roller	A900-06-274	2
Eccentric Guide Roller	A900-06-273	2
V Slide	078-03-00016	1
Slide Plate	078-03-00027	1
Jog Drive Chain	A900-08-066	1
Simplex Sprocket 16T 1/2" Pitch	A900-07-071	1
Idler Sprocket 16T 1/2" Pitch	A900-07-072	1
Circlip-Ext Metric 14mm Dia	A900-01-280	1
Circlip-Ext Metric 24mm Dia	A900-01-193	1
Drive Shaft – Hopper	078-03-00015	1
Rotary Drive Shaft	078-03-00011	1
Drive Gear - Rotary Template	078-03-00010	1
Lip Seal (Rotary Drive Shaft)	A900-12-075	1
Lip Seal (Deposit Drive Shaft)	A900-12-079	1
End Guard (Earlier plastic version)	078-11-00036 078-11-00005)	1
Retainer – End Guard (Earlier plastic version)	078-11-00035 078-11-00002)	2
Spacer – 450mm/580mm Hopper	078-11-00003	1
Spacer – 400mm Hopper	078-11-00004	1
Seal-Rear Cover	A900-25-309	1

ELECTRICAL COMPONENT LAYOUT PARTS

Omega PLUS -- WIRECUT VERSION



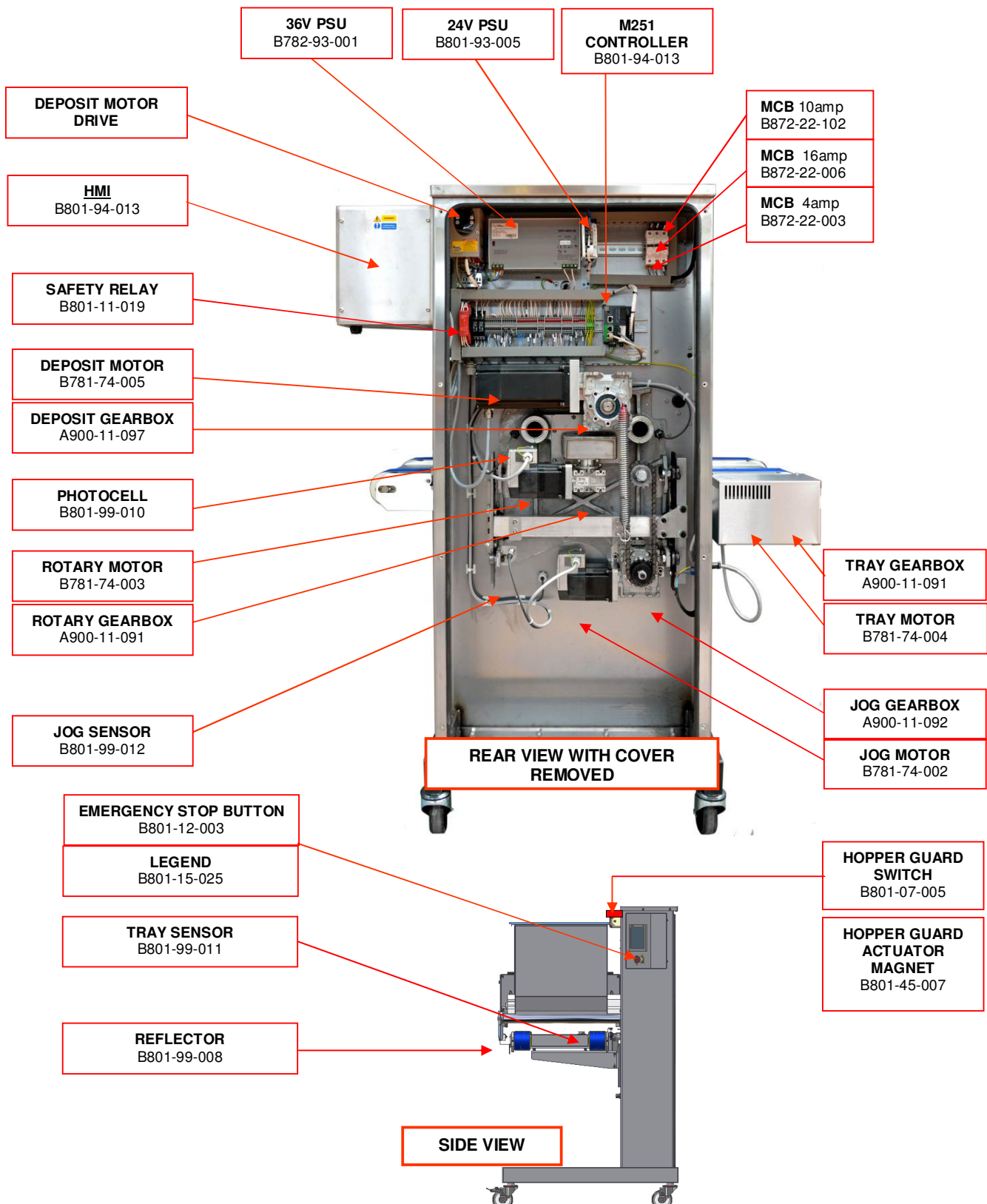


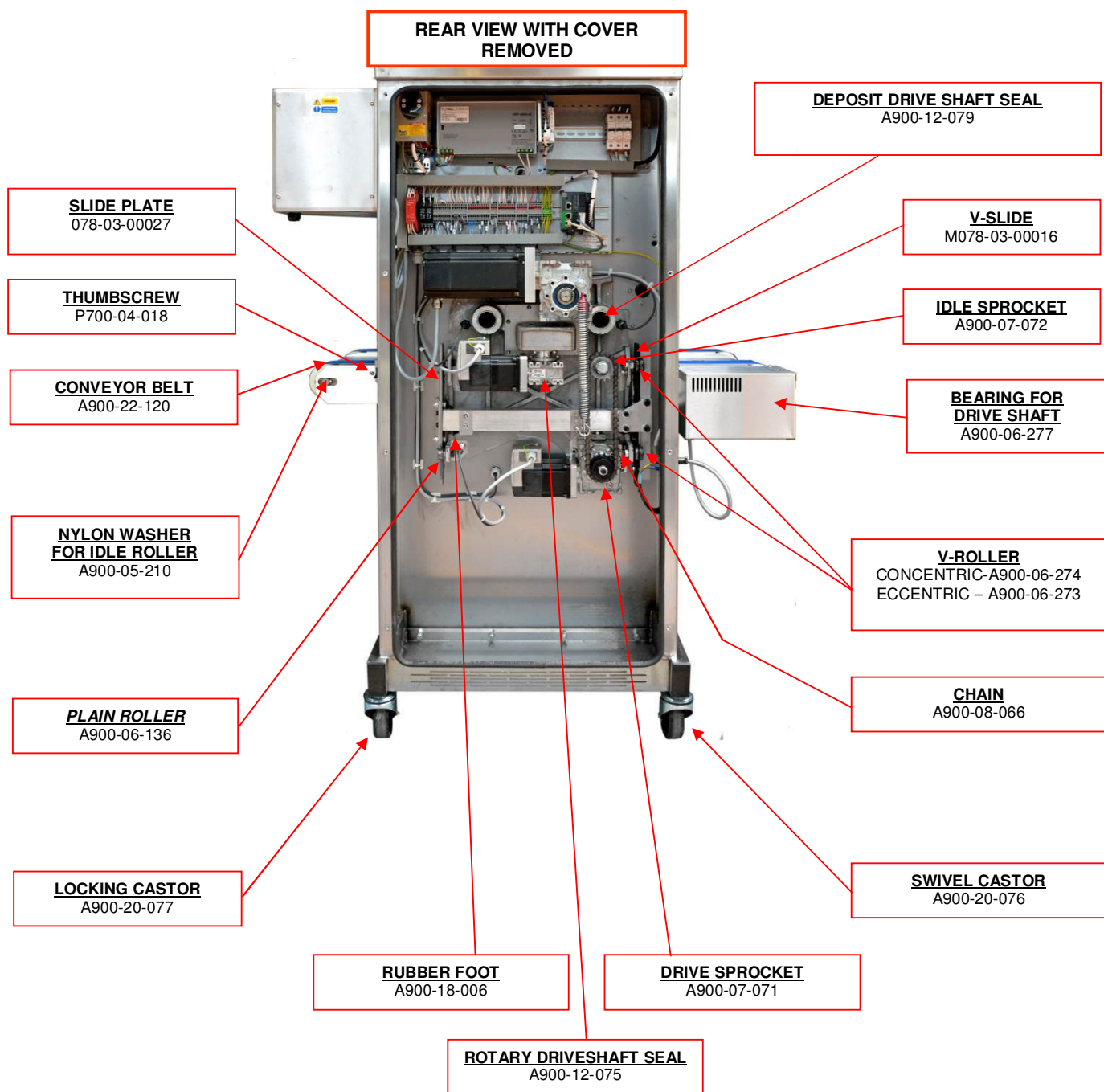
BASE MACHINE SPARES LIST**Omega PLUS -- NO WIRECUT VERSION**

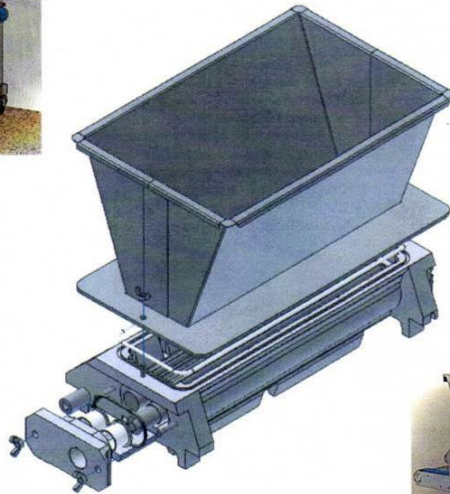
Spares Item Description	Mono Part No.	Qty Req. per Machine
Deposit Gearbox	A900-11-097	1
Jog Gearbox	A900-11-092	1
Rotary Gearbox	A900-11-091	1
Tray Gearbox	A900-11-091	1
Concentric Guide Roller	A900-06-274	2
Eccentric Guide Roller	A900-06-273	2
V Slide	078-03-00016	1
Slide Plate	078-03-00027	1
Jog Drive Chain	A900-08-066	1
Simplex Sprocket 16T 1/2" Pitch	A900-07-071	1
Idler Sprocket 16T 1/2" Pitch	A900-07-072	1
Circlip-Ext Metric 14mm Dia	A900-01-280	1
Circlip-Ext Metric 24mm Dia	A900-01-193	1
Drive Shaft – Hopper	078-03-00015	1
Rotary Drive Shaft	078-03-00011	1
Drive Gear - Rotary Template	078-03-00010	1
Lip Seal (Rotary Drive Shaft)	A900-12-075	1
Lip Seal (Deposit Drive Shaft)	A900-12-079	1
End Guard (Earlier plastic version)	078-11-00036 078-11-00005)	1
Retainer – End Guard (Earlier plastic version)	078-11-00035 078-11-00002)	2
Spacer – 450mm/580mm Hopper	078-11-00003	1
Spacer – 400mm Hopper	078-11-00004	1
Seal-Rear Cover	A900-25-309	1

ELECTRICAL COMPONENT LAYOUT PARTS

Omega PLUS -- NO WIRECUT VERSION







— Omega — **HOPPER PARTS**

HARD DOUGH HOPPER PARTS

Omega PLUS ONLY

HOPPER FABRICATION

STANDARD CAPACITY

M078-09-00086 (400mm)
M078-09-00042 (450mm)
M078-09-00089 (580mm)

EXTENDED CAPACITY

M078-09-00087 (400mm)
M078-09-00088 (450mm)

WINGNUT
A900-04-147

UPPER END BLOCK
(DRIVEN SIDE)
M078-09-00037

ROLLER OPTIONS

M078-KMX004 400mm
4MM GROOVE - ALUMINIUM

M078-KMX005 400mm
6MM GROOVE - ALUMINIUM

M078-KMX006 400mm
8MM GROOVE - ALUMINIUM

M078-KMX015 400mm
8MM GROOVE - PLASTIC

M078-KMX007 450mm
4MM GROOVE - ALUMINIUM

M078-KMX008 450mm
6MM GROOVE - ALUMINIUM

M078-KMX009 450mm
8MM GROOVE - ALUMINIUM

M078-KMX010 580mm
4MM GROOVE - ALUMINIUM

M078-KMX011 580mm
6MM GROOVE - ALUMINIUM

M078-KMX012 580mm
8MM GROOVE - ALUMINIUM

STANDARD(St Steel) ROLLERS

DRIVE	400MM	078-09-00066
	450MM	078-09-00060
	580MM	078-09-00074
DRIVEN	400MM	078-09-00067
	450MM	078-09-00061
	580MM	078-09-00075

TEMPLATES TO CUSTOMER REQUIREMENTS

ROTARY

■ SMALL BORE
■ LARGE BORE

STANDARD

■ SMALL BORE
■ LARGE BORE

DIE

SHEETING

UPPER END BLOCK
(DRIVE SIDE)
M078-09-00036

LOWER END BLOCK
(DRIVE SIDE)
M078-09-00034

THUMBSCREW
M078-09-00043

LOWER END BLOCK
(DRIVEN SIDE)
M078-09-00035

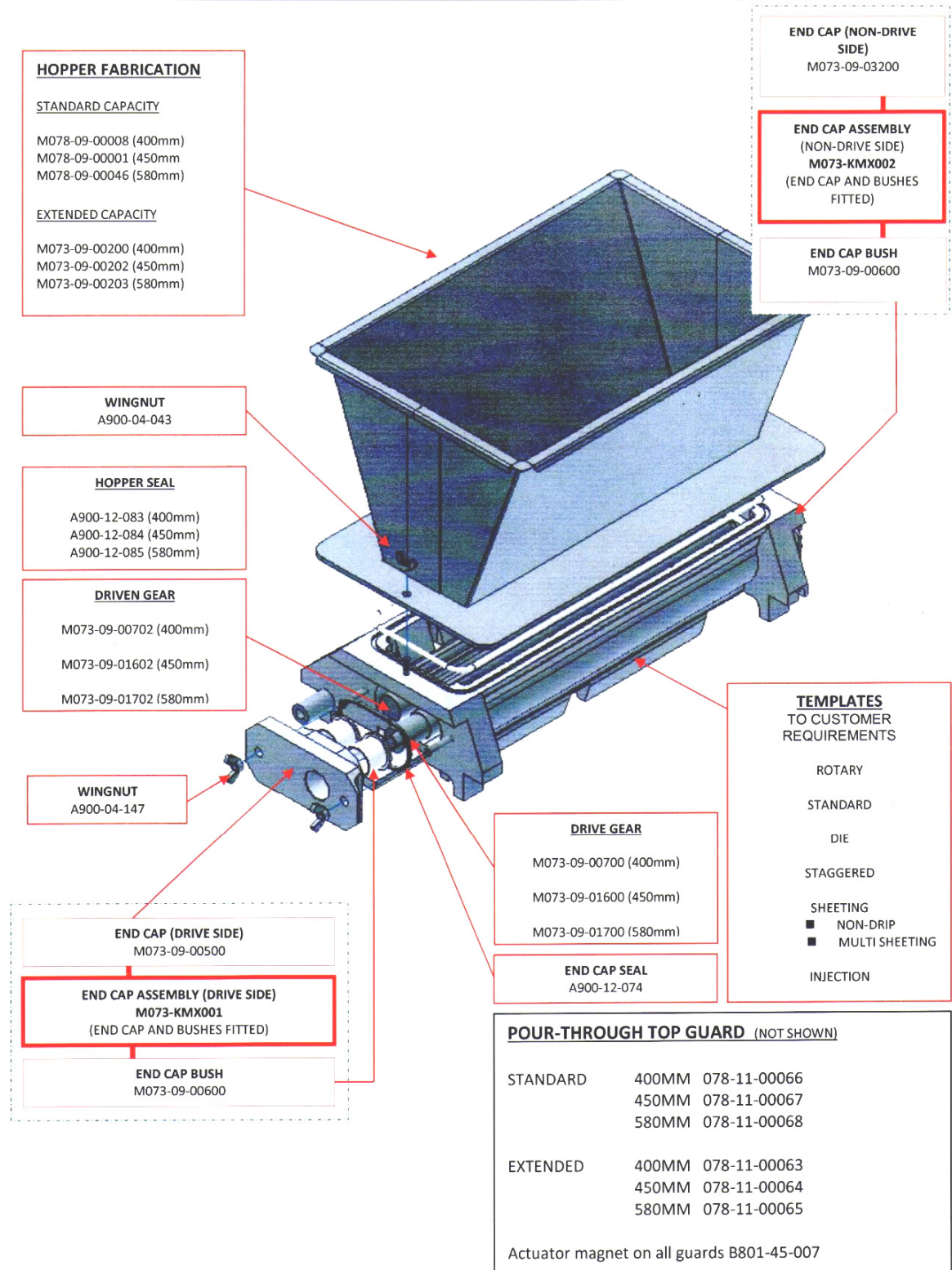
POUR-THROUGH TOP GUARD (NOT SHOWN)

HARD DOUGH	400MM	078-11-00060
	450MM	078-11-00061
	580MM	078-11-00062

Actuator magnet on all guards B801-45-007

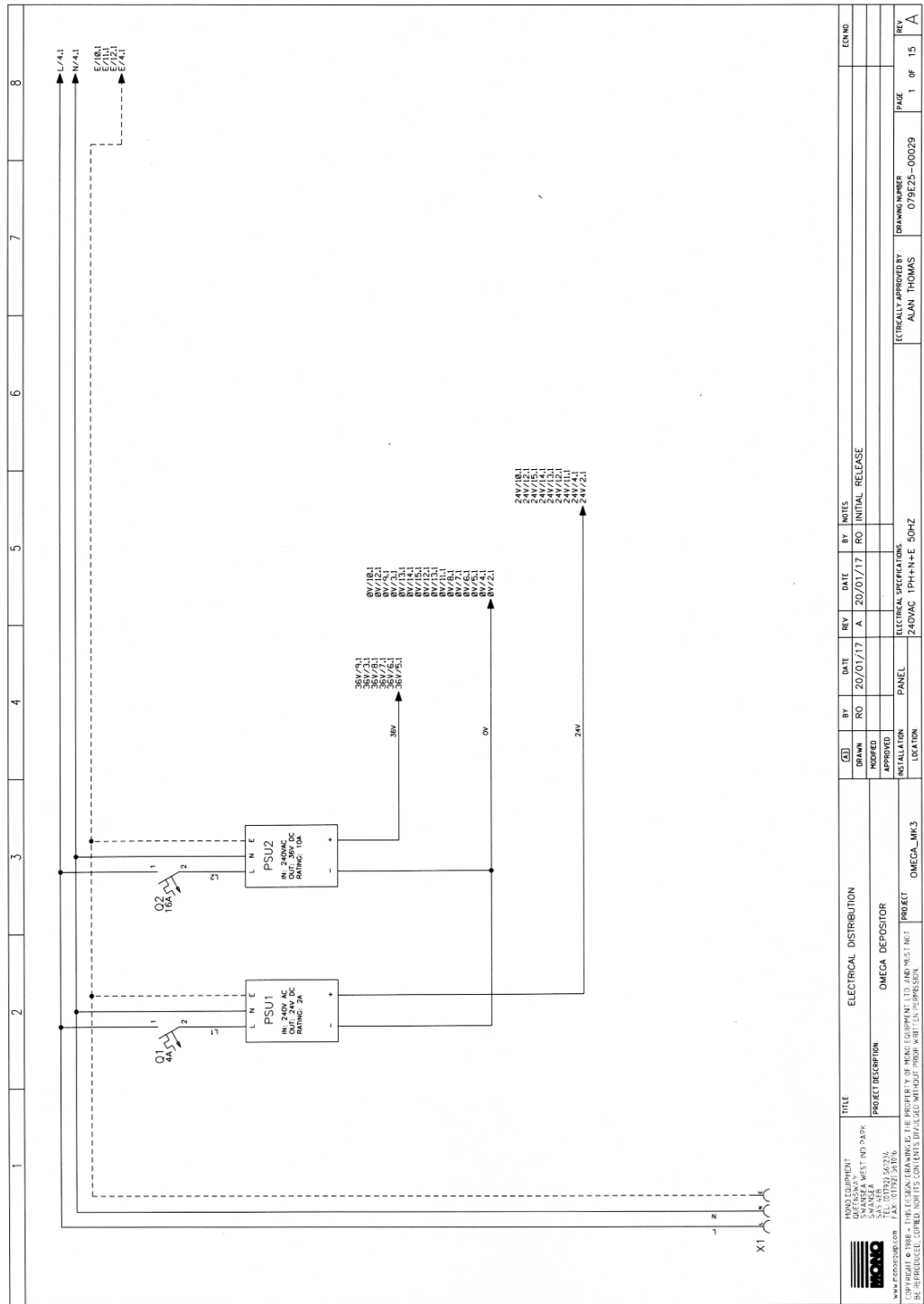
SOFT DOUGH HOPPER PARTS

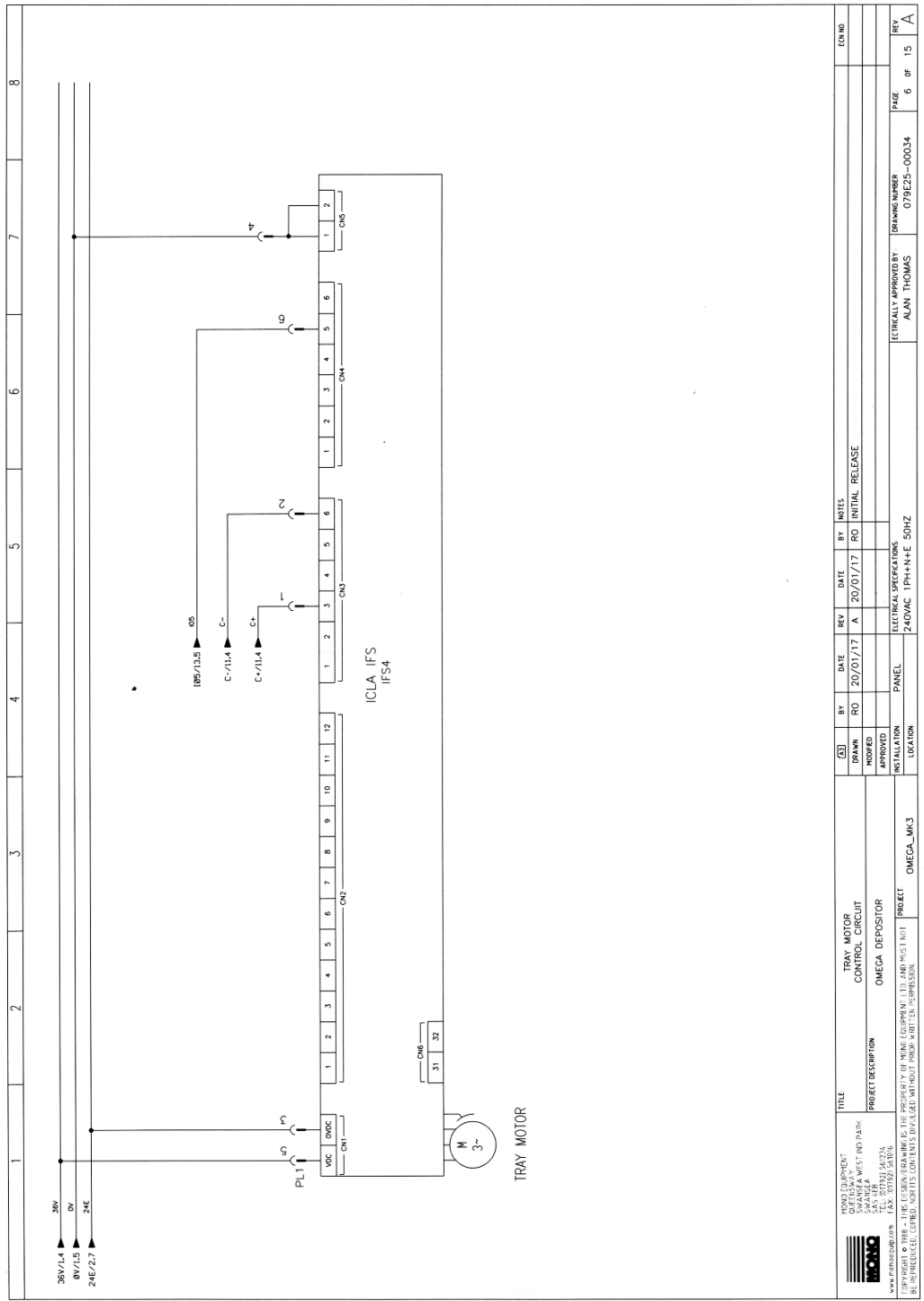
Omega and Omega PLUS

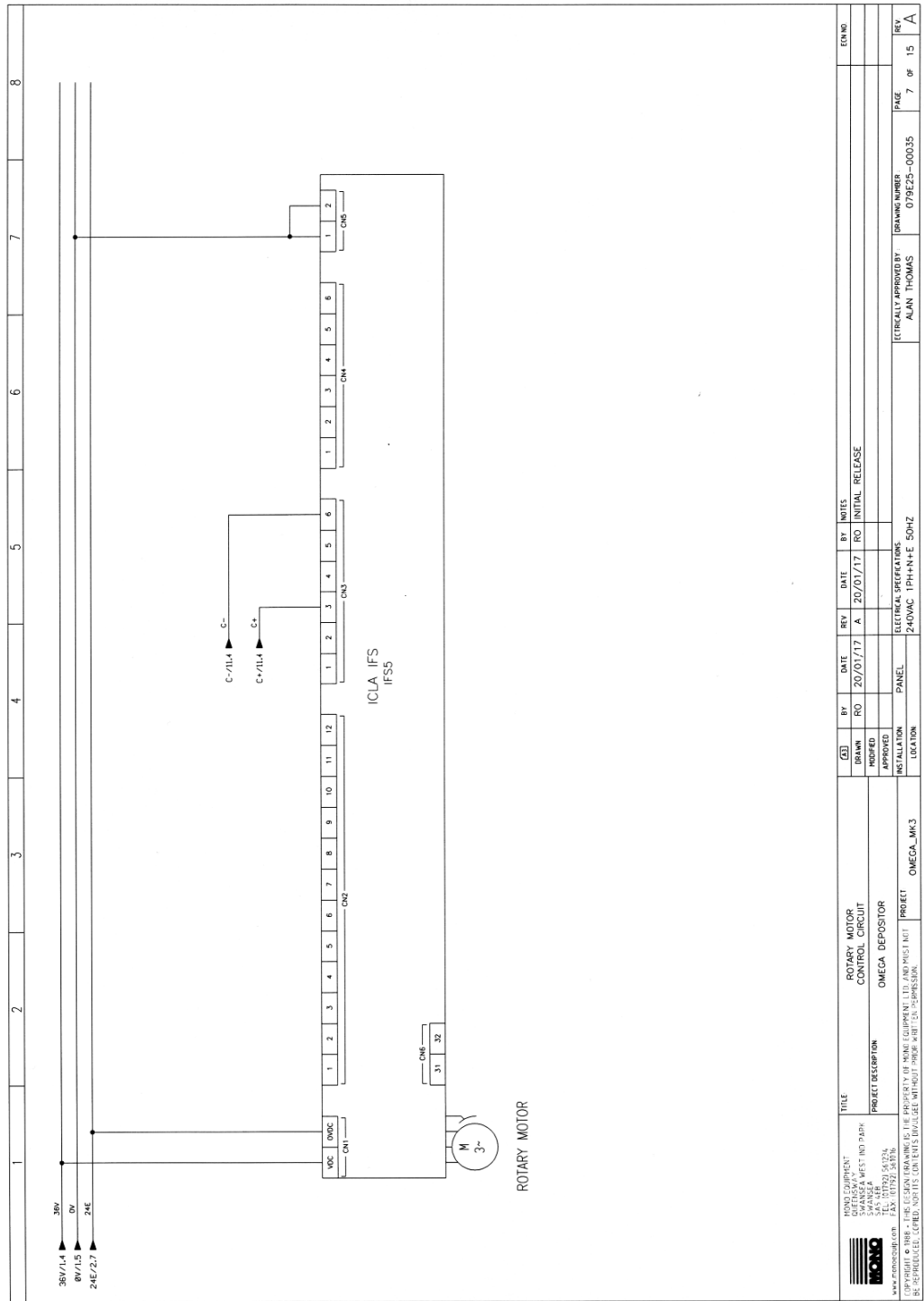


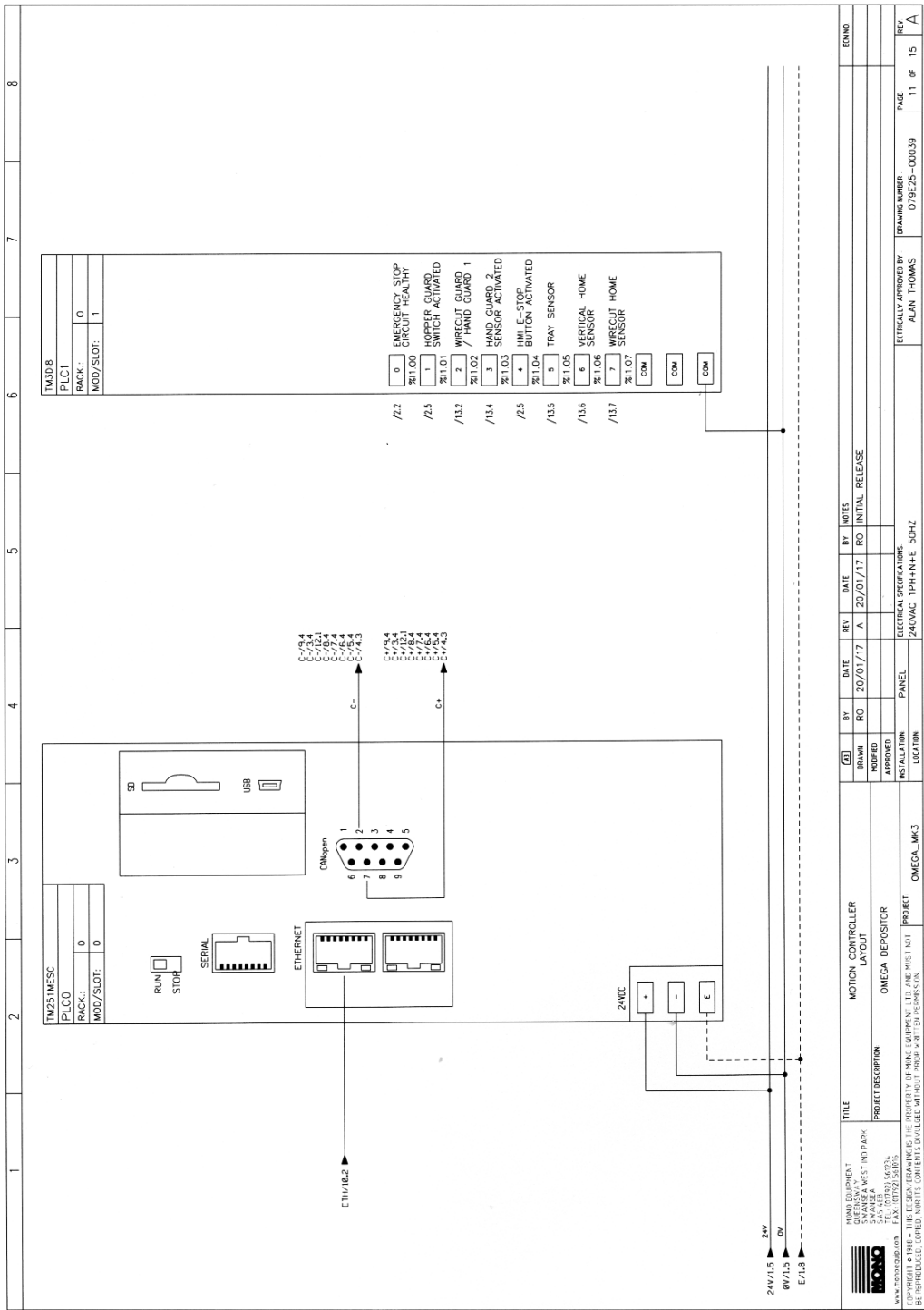


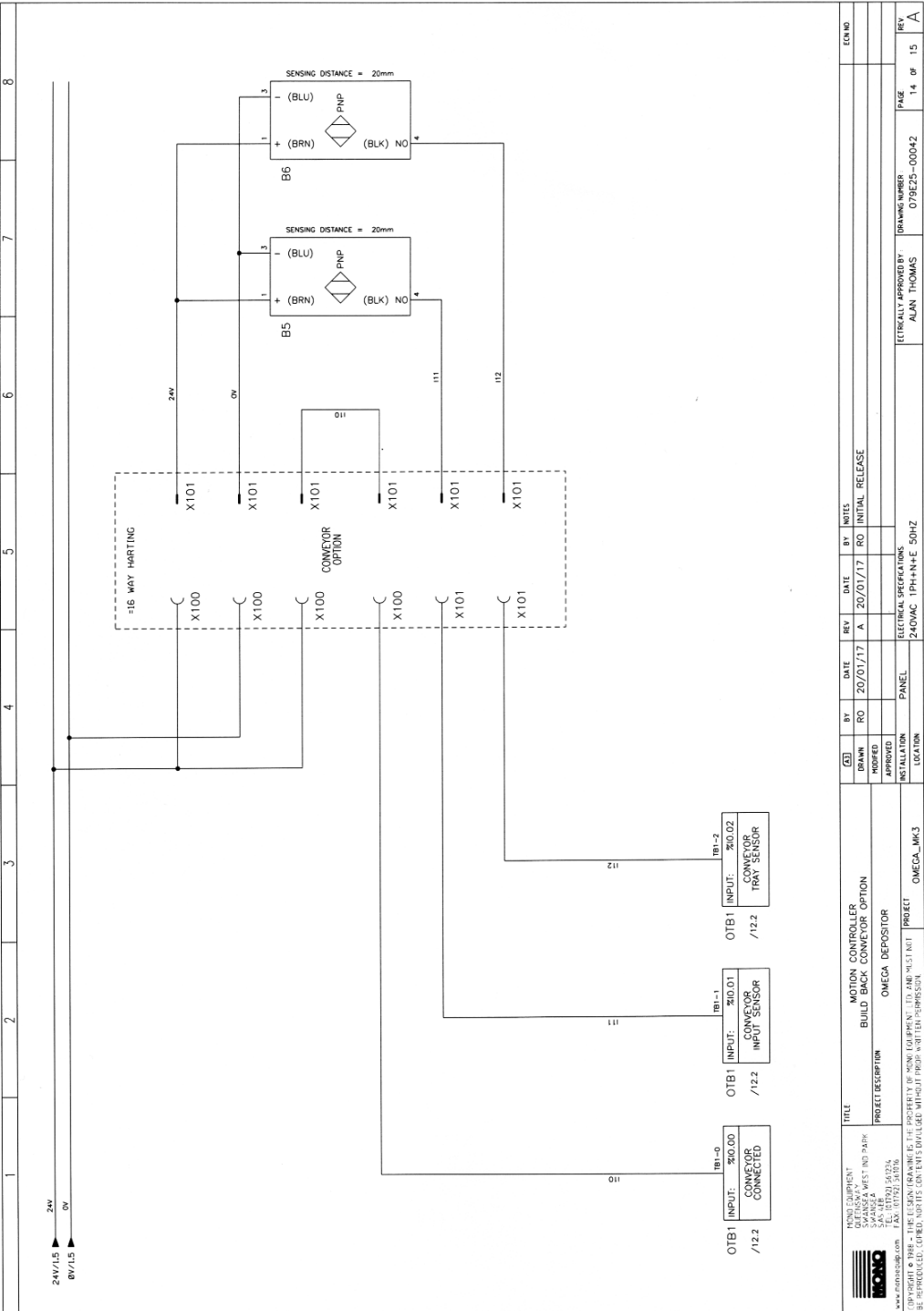
13.0 ELECTRICAL INFORMATION











OMEGA TLCC/LMC TO M251 CONVERSION KITS

(Converts older machines to latest specification controller and screen)

M079-KSE009 OMEGA DEPOSITOR TLCC TO M251 CONVERSION KIT

Comprises of :

078-25-00051 CONVERSION BRACKET & FIXINGS (manufactured)
M079-KSE006 TLCC TO M251 CONVERSION (HAC Ref: H300-001-0063)
H200-004-038 Omega depositor MK3 M251 controller
H200-005-011 Omega depositor MK3 HMI
H200-007-010 Ethernet cat 6 patch cable 1.5m
H200-100-060 Omega TLCC to M251 IO and power loom
H200-007-011 Omega TLCC to M251 canopen comms cable.
H100-007-012 TM3 expansion module 8 input 24V DC
H200-003-073 USB stick blank FAT32
TS35 DIN Rail for mounting M251 (TLCC 90mm)
Also to include instructions - M251 Conversion procedure (TLCC)

M079-KSE007 OMEGA DEPOSITOR LMC (GT) TO M251 CONVERSION KIT

HAC Ref: H300-001-0064

Comprises of :

H200-004-038 Omega depositor MK3 M251 controller
H200-005-011 Omega depositor MK3 HMI
H200-007-010 Ethernet cat 6 patch cable 1.5m
H200-100-061 Omega LMC to M251 IO and power loom
H200-007-012 Omega LMC to M251 canopen comms cable.
H100-007-012 TM3 expansion module 8 input 24V DC
H200-003-073 USB stick blank FAT32
TS35 DIN Rail for mounting M251 (LMC 410mm)
Also to include instructions - M251 Conversion procedure (LMC)

M079-KSE008 OMEGA DEPOSITOR LMC (GTO) TO M251 CONVERSION KIT

HAC Ref: H300-001-0065

Comprises of :

H200-004-038 Omega depositor MK3 M251 controller
H200-003-064 Omega depositor MK3 HMI USB stick 4.3.0.0.A
H200-007-010 Ethernet cat 6 patch cable 1.5m
H200-100-061 Omega LMC to M251 IO and power loom
H200-007-012 Omega LMC to M251 canopen comms cable.
H100-007-012 TM3 expansion module 8 input 24V DC
H200-003-073 USB stick blank FAT32
TS35 DIN Rail for mounting M251 (LMC 410mm)
Also to include instructions - M251 Conversion procedure (LMC)

TLCC to M251 Conversion Procedure



ONLY COMPETENT PERSONS TRAINED IN ELECTRICAL MAINTENANCE SHOULD ATTEMPT TO CARRY OUT THIS PROCEDURE. FAILURE TO OBSERVE SAFE WORKING PRACTICES AND FOLLOW THE INSTRUCTIONS IN THIS PROCEDURE COULD LEAD TO SERIOUS INJURY OR DEATH.

YOU MUST ISOLATE THE POWER SUPPLY BEFORE PROCEEDING.

YOU MUST WAIT FOR AT LEAST 10 MINUTES AFTER ISOLATION OF THE POWER SUPPLY BEFORE WORKING ON THE MACHINE.

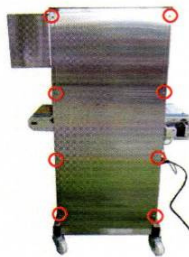


REMOVE TLCC MOTION CONTROLLER AND WIRING

A

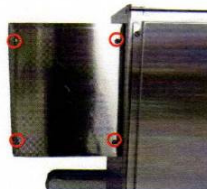
Follow the steps below to update the remove the TLCC motion controller and associated wiring :-

1



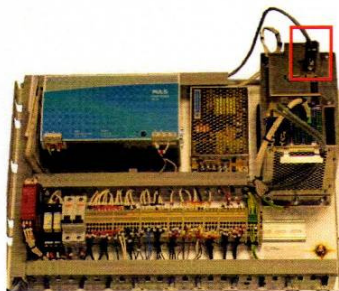
Remove the 8 screws securing the main enclosure cover to gain access to the electrical control panel.

2



Remove the 4 screws securing the HMI enclosure cover to gain access to the rear of the HMI.

3



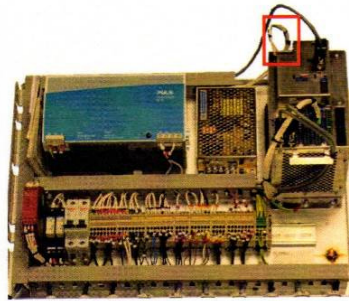
Remove the 'D' connector from the TLCC using a small screwdriver.

4



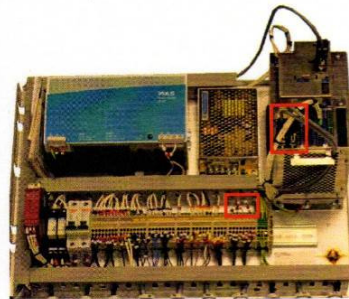
Remove the 'D' connector from the HMI using a small screwdriver.

5



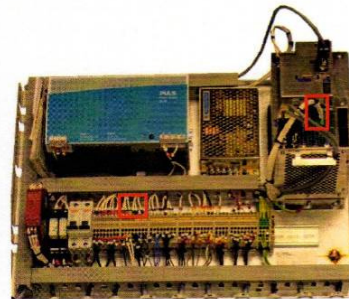
Remove wires to the power supply of the TLCC using a small screwdriver.

6



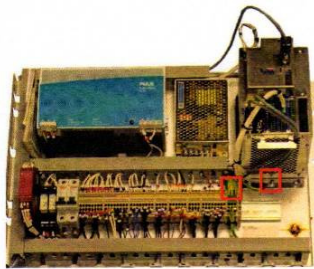
Remove the 2x 'D' connectors from the TLCC using a small screwdriver. Remove the trunking lids. Trace the wires back to the terminals (C1+ / C1- / C2+ / C2-) and remove using a small screwdriver.

7



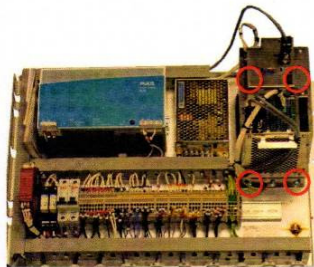
Remove the I/O connector from the TLCC (pull to remove). Trace the wires back to the terminals (I02 to I08) and remove using a small screwdriver. Trace the wire back to the emergency stop relay (I01) and remove with a small screwdriver.

8



Remove the earth wire from the TLCC using an M8 spanner/socket. Trace the wire back to the terminals and remove using a small screwdriver.

9

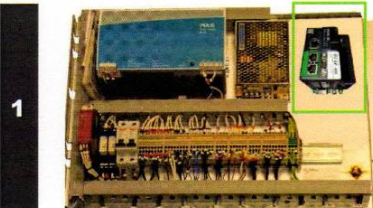


Remove 4x screws using a posidrive screwdriver and remove TLCC motion controller.

INSTALL M251 MOTION CONTROLLER AND WIRING

B

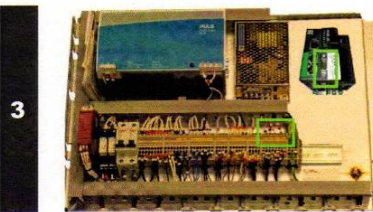
Follow the steps below to install the M251 motion controller and associated wiring :-



Fix the M251 to the control panel using the fixing kit supplied.



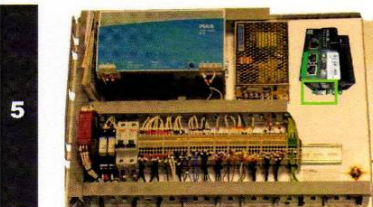
Take the CANOpen comms cable from the conversion kit.



Connect the CAN cable to the port at the top of the M251. Connect the wires at the other end of this cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed)

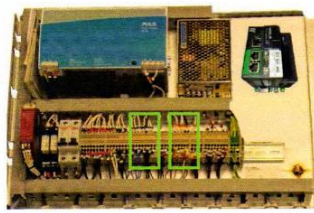


Take the IO and power loom from the conversion kit.



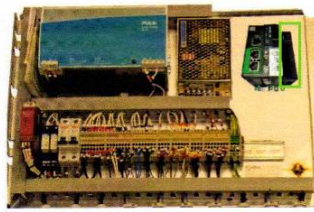
Connect the power supply plug to the M251 (connector at bottom).

6



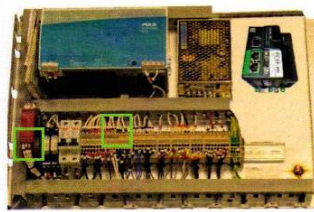
Connect the wires at the other end of the power cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed).

7



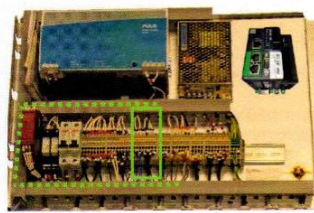
Connect the IO cable plug to the M251 expansion module at the right.

8



Connect the wires at the other end of the IO cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed) for wires I02 to I08. Connect I01 to the emergency stop relay connection point 14.

9



Connect the wire marked 0V to the terminals with the corresponding wire numbers. You will have to find a spare/unused terminal on the terminal rails, this may mean routing the cable to the bottom of the terminals.

10



Remove the Modbus cable from the COM1 connector on the HMI by using a small screw driver to loosen the fastening screws and then pulling to release.

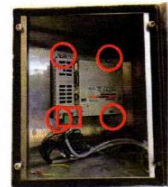
This cable will no longer be used and can be completely removed.

1
1



Unplug the HMI power cable and remove the old HMI by loosening and removing the 4x retaining clips with a small posidrive/flat head screwdriver. Then push the HMI out of the cut out.

1
2



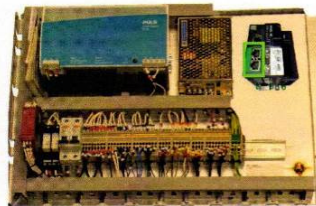
Fit the new HMI (HMIGTO3210) using the 4x retaining clips supplied in the box with a small posidrive/flat head screwdriver. Then plug in the power connector.

1
3



Take the HMI cable from the conversion kit.

1
4



Connect the HMI cable to one of the connectors marked ETHERNET. Ensure that the cable is pushed in firmly, you should hear a "click".

1
5

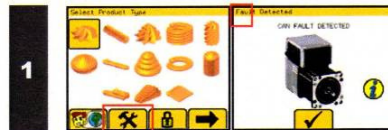


Connect the HMI cable to the connector marked ETHERNET. Ensure that the cable is pushed in firmly, you should hear a "click".

CONFIGURE MACHINE FOR USE

C

Follow the steps below to configure the machine to recognise the connected hardware and to set factory defaults :-



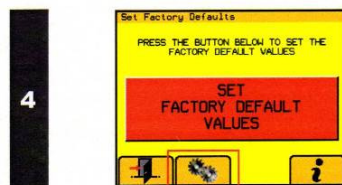
From the Select Product **OR** Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01792561234**



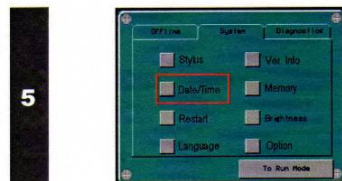
Select the options installed on your machine. Press the exit button.



From the Select Product **OR** Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01554777460**



Press the **SET FACTORY DEFAULTS** BUTTON. Then press The **COGS** Button to enter the System Menu.

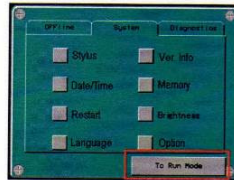


Select the **DATE/TIME** option to enter the date and time setting page.



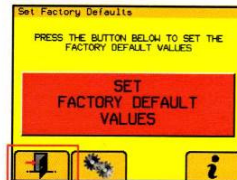
Set the Date and Time to the correct settings and press **OK**.

7



Press the **TO RUN MODE** button to return to the set factory defaults page.

8



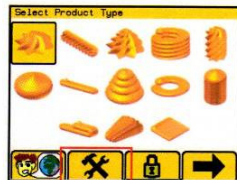
Press the **EXIT** button to return to the main menu.

CYCLE POWER TO THE MACHINE BEFORE CONTINUING

CHECK I/O FUNCTIONALITY D

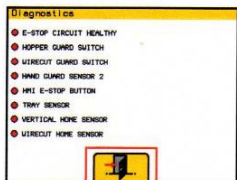
Follow the steps below to verify that the wiring has been completed correctly and that the I/O to the M251 is correct :-

1



From the Select Product page activate the tools password entry and type in **2808**

2



Test that **ALL** inputs are working correctly using the diagnostics page.

Inputs are shown as **RED** for **OFF** and **GREEN** for **ON**.

The E-Stop circuit healthy input will switch if any one of the safety devices is switched (e-stop button / hand guard sensor / hopper guard)

To activate the tray / vertical / wirecut sensors you will need to place a metallic object in front of the sensor.

Press the **EXIT** button when all inputs are verified OK.

SET MOTOR PARAMETERS (WHERE REQUIRED)

E

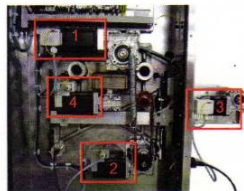


YOU MUST ISOLATE THE POWER SUPPLY BEFORE PROCEEDING.
YOU MUST WAIT FOR AT LEAST 10 MINUTES AFTER ISOLATION OF THE POWER SUPPLY BEFORE WORKING ON THE MACHINE.



If the machine was previously running with a TLCC software version of v1.0, v1.1, v1.2 or v1.3 then the motor configuration will need to be updated in order for the machine to function :-

1



Identify the motors present in the rear of the machine.

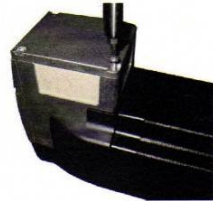
- 1 – Pump Motor
- 2 – Jog Motor
- 3 – Tray Motor
- 4 – Rotary Motor

2



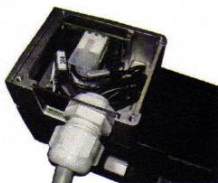
To access the tray motor remove the cover plate. There are 2 screws on the top and 2 screws on the bottom

3



Locate the motor control box for each motor and remove the 4 screws to gain access (tamper proof screws).

4



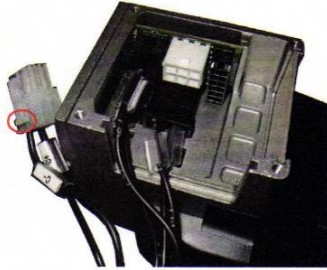
Remove the motor control box lid.

5



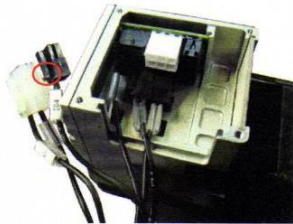
Slide the cable gland plate from the motor housing to gain access to the connectors.

6



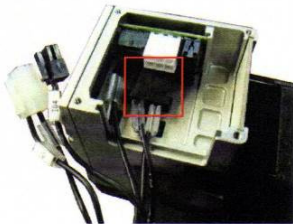
Carefully remove the CAN connector, press the locking pin to release and pull to remove.

7



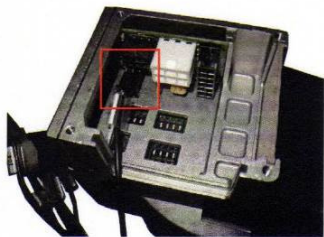
Carefully remove the I/O connector, press the locking pin to release and pull to remove.

8

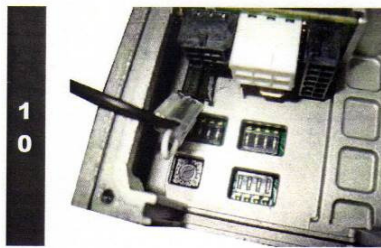


Carefully remove the POWER connector, pull to remove (long nosed pliers can be used).

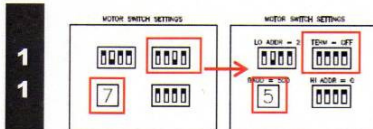
9



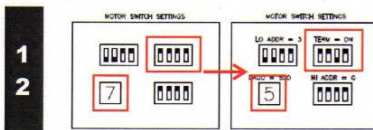
Do **NOT** remove the STOP connector, this cable can be moved out of the way to gain access to the switches.



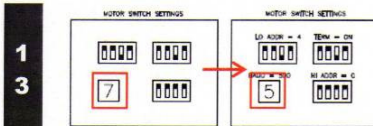
Using a small screwdriver adjust the settings of the switches and rotary dial as per the motor configurations below.



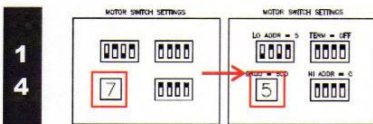
Pump Motor (Standard)
Set the rotary dial to 5 and the DIP switches to the settings shown.



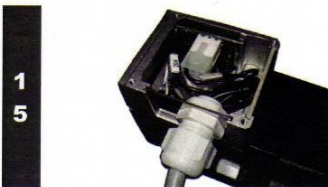
Jog Motor
Set the rotary dial to 5 and the DIP switches to the settings shown.



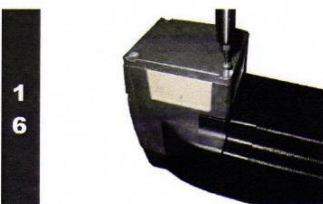
Tray Motor
Set the rotary dial to 5 (as shown)



Rotary Motor
Set the rotary dial to 5 (as shown)



Re-fit all the motor wiring connectors (in reverse order to removal) and fit the gland plate in place.



Re-fit the motor control box lid for each motor (ensure that the earth cable is connected).

LMC20 to M251 Conversion Procedure



ONLY COMPETENT PERSONS TRAINED IN ELECTRICAL MAINTENANCE SHOULD ATTEMPT TO CARRY OUT THIS PROCEDURE. FAILURE TO OBSERVE SAFE WORKING PRACTICES AND FOLLOW THE INSTRUCTIONS IN THIS PROCEDURE COULD LEAD TO SERIOUS INJURY OR DEATH.

YOU MUST ISOLATE THE POWER SUPPLY BEFORE PROCEEDING.

YOU MUST WAIT FOR AT LEAST 10 MINUTES AFTER ISOLATION OF THE POWER SUPPLY BEFORE WORKING ON THE MACHINE.

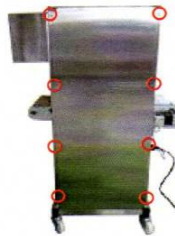


REMOVE LMC20 MOTION CONTROLLER AND WIRING

A

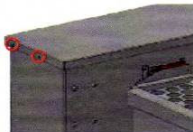
Follow the steps below to update the remove the LMC20 motion controller and associated wiring :-

1



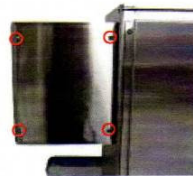
Remove the 8 screws securing the main enclosure cover to gain access to the electrical control panel.

2

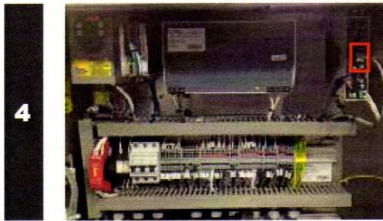


Remove the 4 screws securing the main enclosure lid (2 on each side) using 1 4mm allen key and 10mm spanner/socket to gain access to the electrical control panel. To remove the lid lift the lid at the front and slide to the rear then lift to remove.

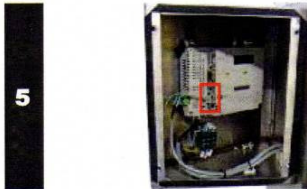
3



Remove the 4 screws securing the HMI enclosure cover to gain access to the rear of the HMI.



Remove the Modbus cable from the Modbus connector on the LMC20 by pressing the small tab on the connector and pulling.

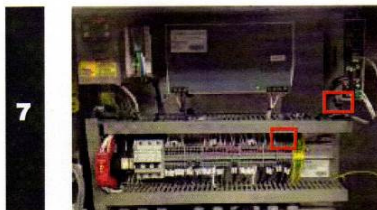


Remove the Modbus cable from the RS485 connector on the HMI by pressing the small tab on the connector and pulling.

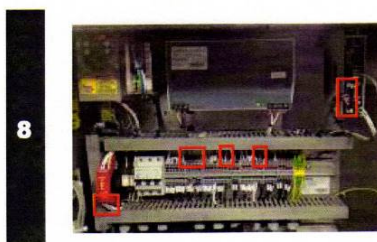
This cable will no longer be used and can be completely removed.



Remove the wires to the power supply of the LMC20 by pulling the green connector. Remove the trunking lids. Trace the wires back to the terminals (0V / 24V) and remove using a small screwdriver.



Remove the 'D' connector from the bottom of the LMC20 by pulling the connector. Trace the wires back to the terminals (C+ / C-) and remove using a small screwdriver.



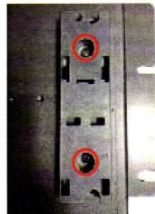
Remove the I/O connector from the LMC20 by releasing the retaining clips (top and bottom) and pulling the cable. Trace the wires back to the terminals (I01 to I07, 0V, 24V) and remove using a small screwdriver. Trace the wire back to the emergency stop relay (I00) and remove with a small screwdriver.

9



Unscrew the LMC20 from its mounting bracket using a posidrive screwdriver (you will need to access from the top of the machine). Then pull the LMC20 forward from the top, and then lift to remove from the mounting bracket.

10

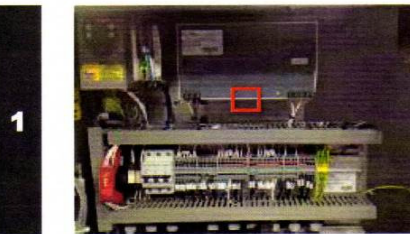


Remove 2x screws using a posidrive screwdriver and remove LMC20 mounting bracket.

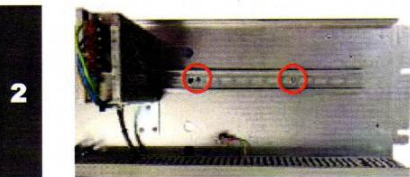
INSTALL M251 MOTION CONTROLLER AND WIRING

B

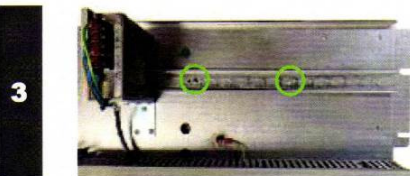
Follow the steps below to install the M251 motion controller and associated wiring :-



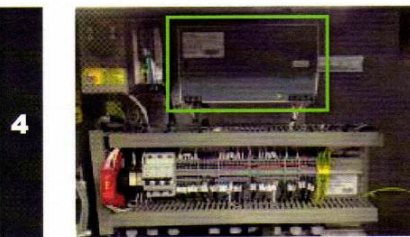
Release the 36 Volt power supply from the DIN rail by using a large flat head screwdriver to pull down on the retaining clip. Lift the power supply off the DIN rail.



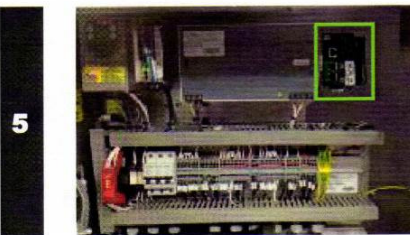
Remove the 2x DIN rail screws using a posidrive screwdriver and remove the DIN rail.



Fix the extended DIN rail in place using the 2x screws.



Fix the 36 Volt power supply onto the DIN rail – ensure it is mounted securely.

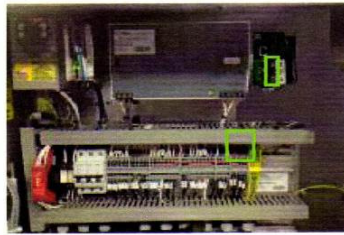


Fix the M251 to the DIN rail – ensure that the 3x retaining clips are in the out position before offering up to the DIN rail, then use a screwdriver to push the 3x retaining clips in – ensure it is mounted securely.



Take the CANOpen comms cable from the conversion kit.

7



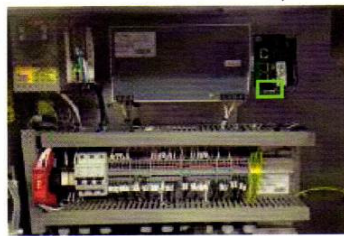
Connect the CAN cable to the port at the top of the M251. Connect the wires at the other end of this cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed)

8



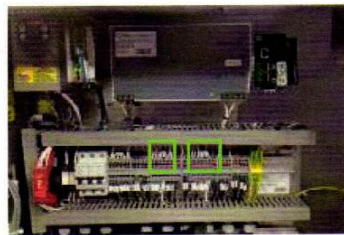
Take the IO and power loom from the conversion kit.

9



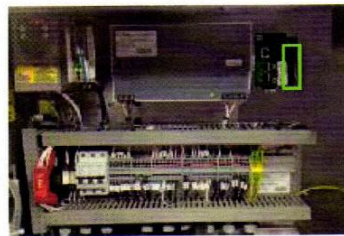
Connect the power supply plug to the M251 (connector at bottom). Note the retaining shroud hinges up to enable the connector to be inserted, insert then hinge the shroud down to fully engage.

10



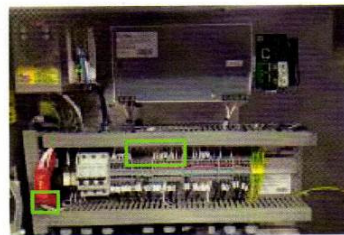
Connect the wires at the other end of the power cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed).

11



Connect the IO cable plug to the M251 expansion module at the right. Push the connector into the housing – ensure it is fully engaged.

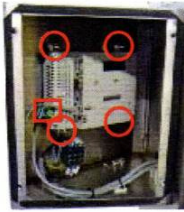
12



Connect the wires at the other end of the IO cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed) for wires I01 to I07 and 0V. Connect I00 to the emergency stop relay connection point 14.

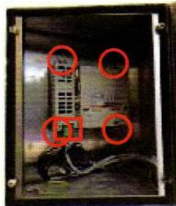
IF YOU ALREADY HAVE THE HMIGTO2310 FITTED SKIP TO STEP 15

**1
3**



Unplug the HMI power cable and remove the old HMI by loosening and removing the 4x retaining clips with a small posidrive/flat head screwdriver. Then push the HMI out of the cut out.

**1
4**



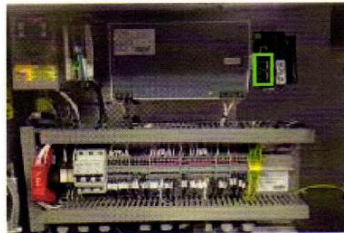
Fit the new HMI (HMIGTO3210) using the 4x retaining clips supplied in the box with a small posidrive/flat head screwdriver. Then plug in the power connector.

**1
5**



Take the HMI cable from the conversion kit.

**1
6**



Connect the HMI cable to one of the connectors marked ETHERNET. Ensure that the cable is pushed in firmly, you should hear a "click".

**1
7**

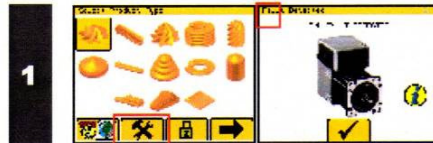


Connect the HMI cable to the connector marked ETHERNET. Ensure that the cable is pushed in firmly, you should hear a "click".

CONFIGURE MACHINE FOR USE

C

Restore power to the machine. Follow the steps below to configure the machine to recognise the connected hardware and to set factory defaults :-



From the Select Product OR Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01792561234**



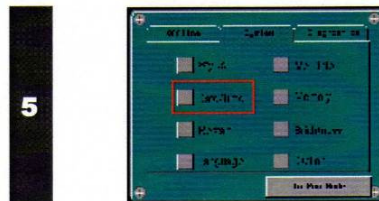
Select the options installed on your machine. Press the exit button.



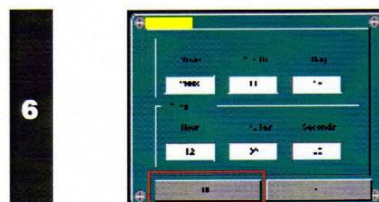
From the Select Product OR Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01554777460**



Press the **SET FACTORY DEFAULTS BUTTON**. Then press The **COGS** Button to enter the System Menu.

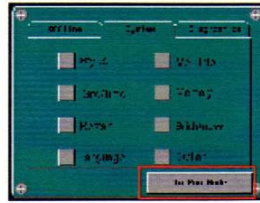


Select the **DATE/TIME** option to enter the date and time setting page.



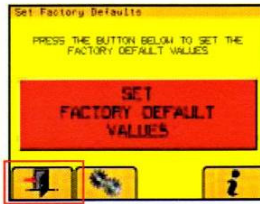
Set the Date and Time to the correct settings and press **OK**.

7



Press the **TO RUN MODE** button to return to the set factory defaults page.

8



Press the **EXIT** button to return to the main menu.

CYCLE POWER TO THE MACHINE BEFORE CONTINUING

CHECK I/O FUNCTIONALITY

D

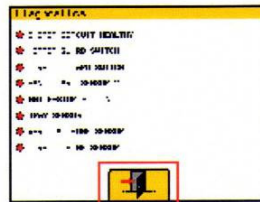
Follow the steps below to verify that the wiring has been completed correctly and that the I/O to the M251 is correct :-

1



From the Select Product page activate the tools password entry and type in **2808**

2



Test that **ALL** inputs are working correctly using the diagnostics page.

Inputs are shown as **RED** for **OFF** and **GREEN** for **ON**.

The E-Stop circuit healthy input will switch if any one of the safety devices is switched (e-stop button / hand guard sensor / hopper guard)

To activate the tray / vertical / wirecut sensors you will need to place a metallic object in front of the sensor.

Press the **EXIT** button when all inputs are verified OK.

The equipment mentioned in this manual has CE accreditation.

As it is our policy to improve our machines continuously, we reserve the right to change specifications without prior notice



Omega PLUS



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And WIRECUT**



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▪ DISPOSAL

Care should be taken when the machine comes to the end of its working life. All parts should be disposed of in the appropriate place, either recycling or other means as the law permits at the time.