Enter **Serial No.** here._____

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

www.monoequip.com

“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

FOR SAFE WORKING, PAY SPECIAL ATTENTION TO ITEMS MARKED

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

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1.0 INTRODUCTION

- 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.

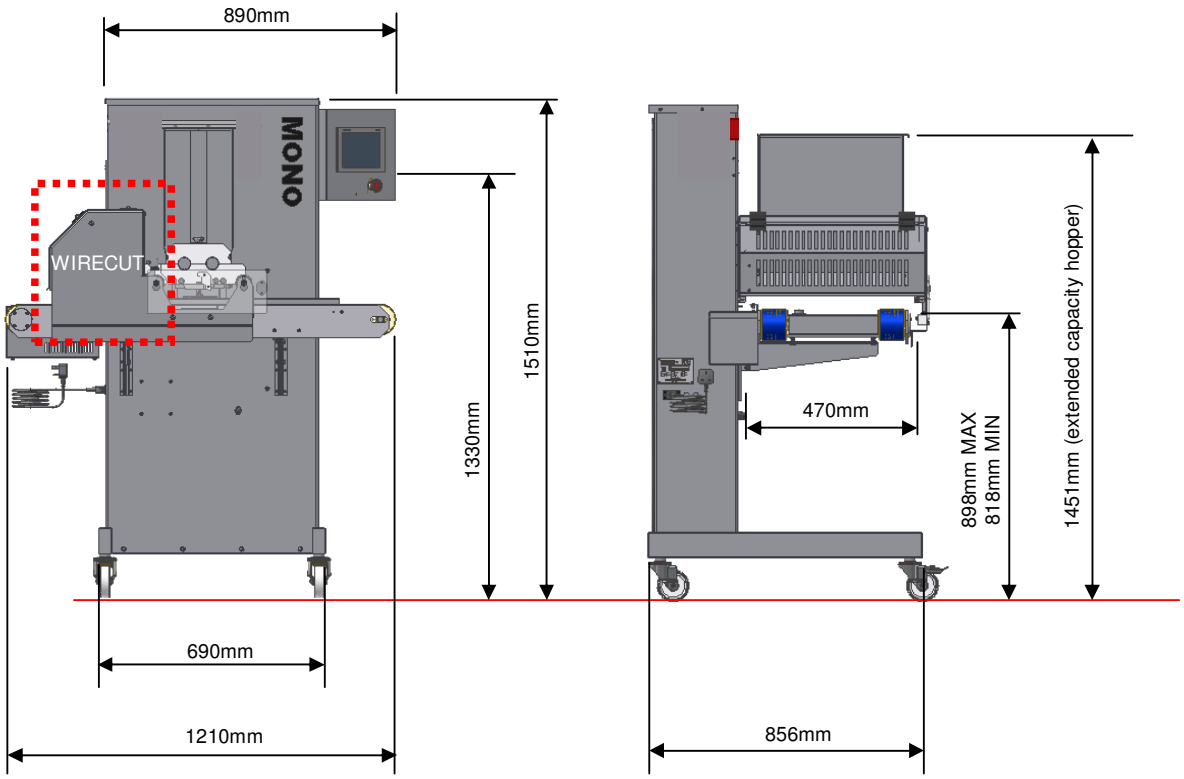
As it is our policy to improve our machines continuously,
we reserve the right to change specifications without prior notice

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

	SOFT DOUGH		HARD DOUGH	
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
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

4.0 SAFETY

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**.

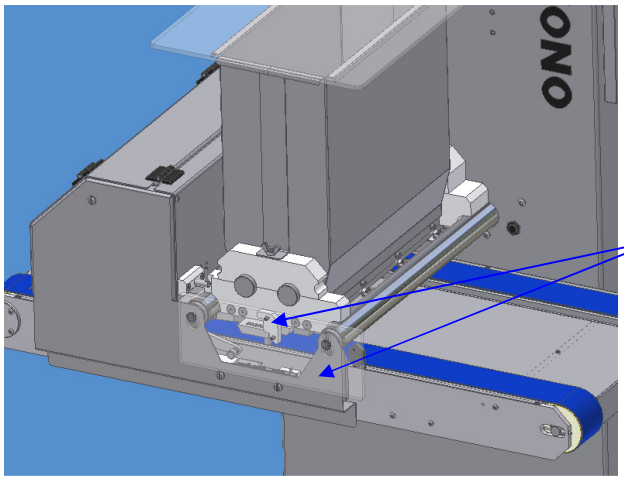
7 **Do not operate the machine with any panels or guards removed**.
They are there to protect you.

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

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

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.

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. -

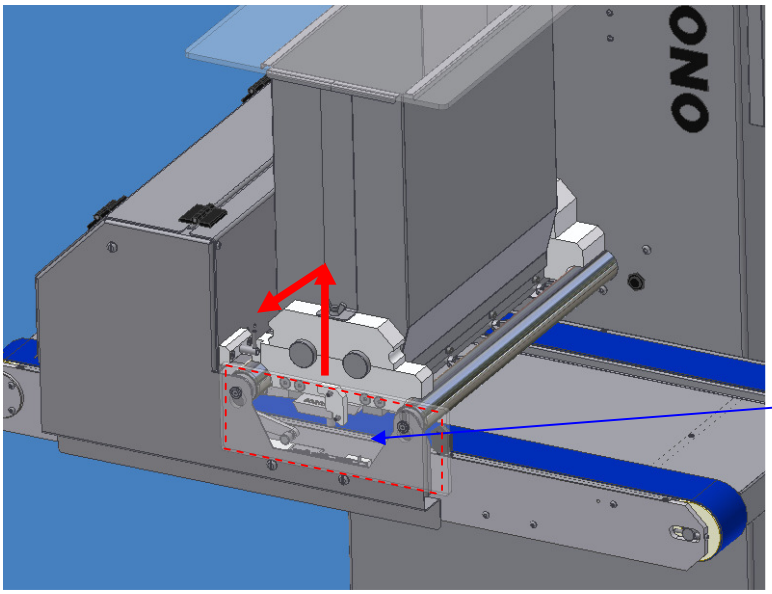
All the outer surfaces of the machine should be wiped over daily with warm soapy water.

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.



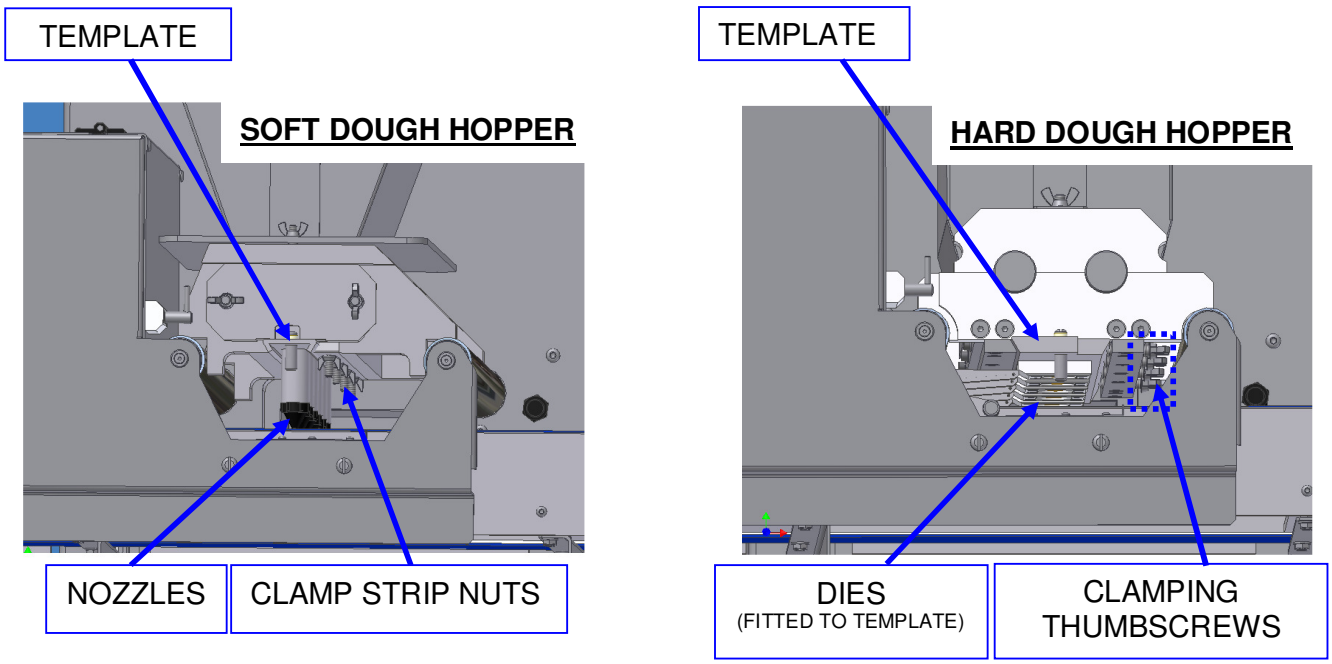
SAFETY COVER

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.

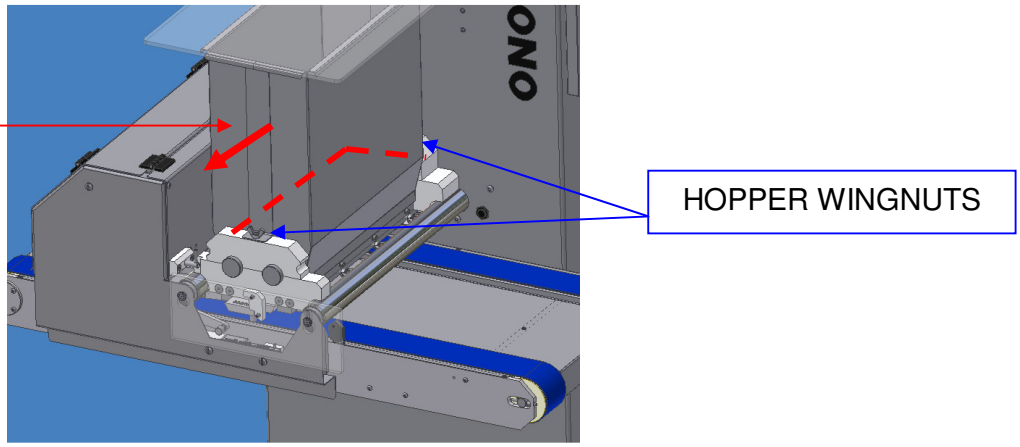
NOTE.

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.

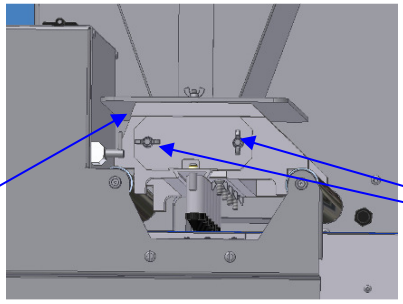
SOFT DOUGH HOPPER

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.

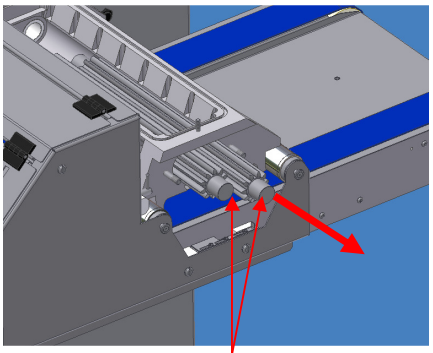
1. After removing the feed hopper, check condition of feed hopper seal.

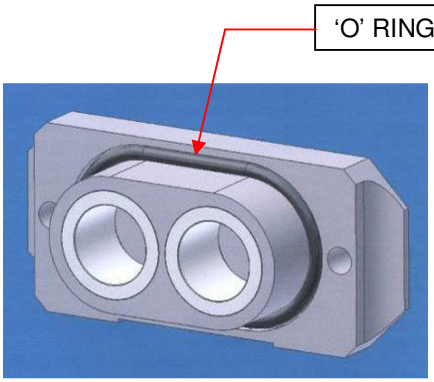
2. Unscrew the end cap retaining nuts from the accessible side of the pump assembly.
   [Ensure that the nuts are placed where they will not be lost.]



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.





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

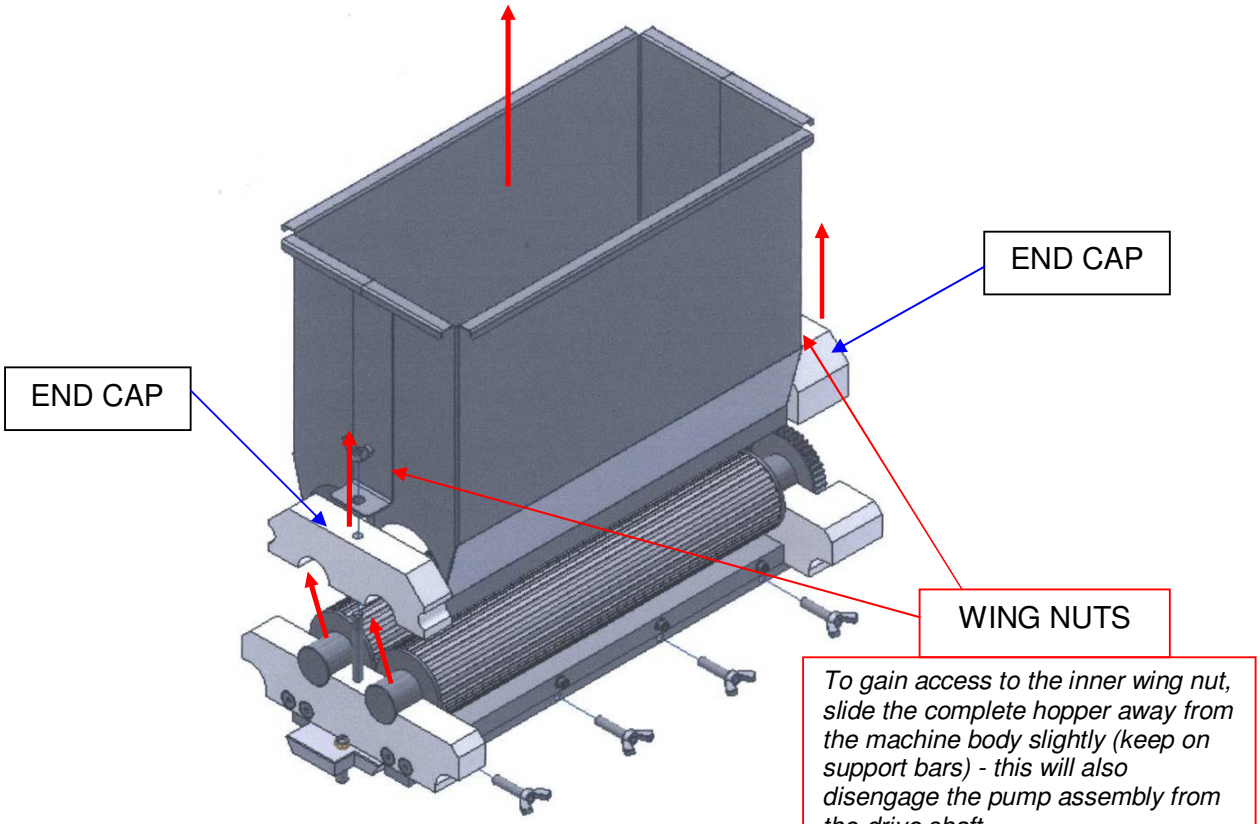
CAUTION:
The feed hopper and pump assembly exceeds 25kg and will need to be lifted off by two people, or dismantled into smaller components while still on the machine.

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.



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.

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

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**.

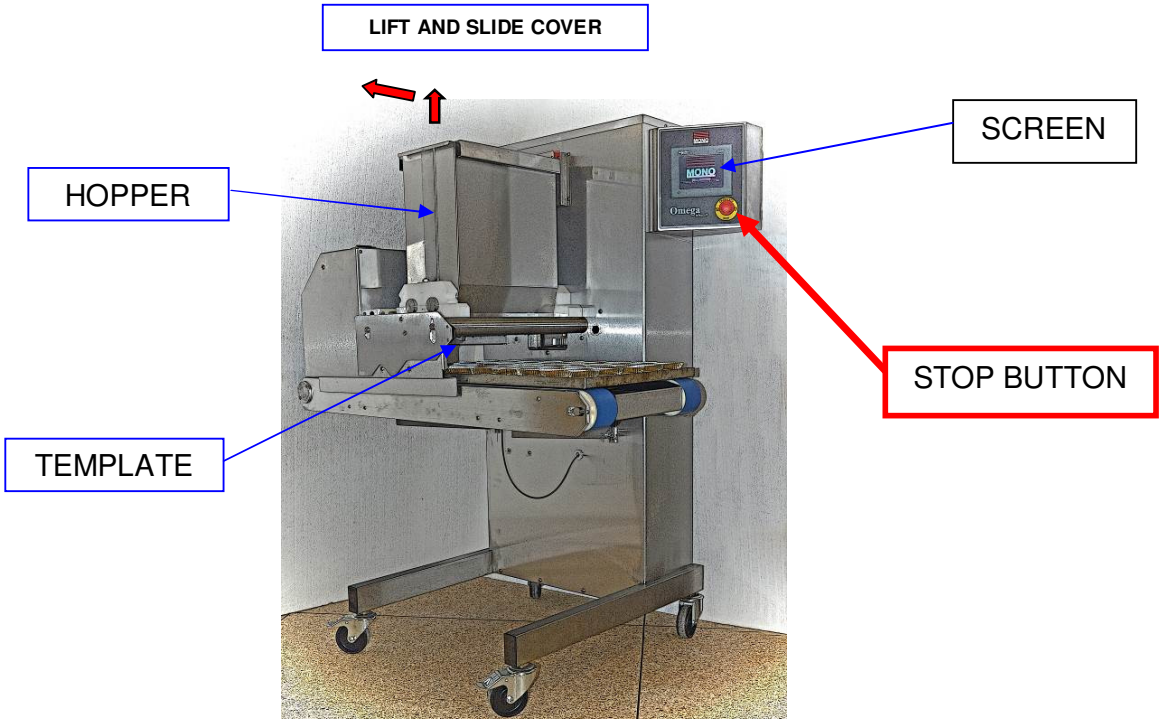
9.0 PREPARING FOR OPERATION

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

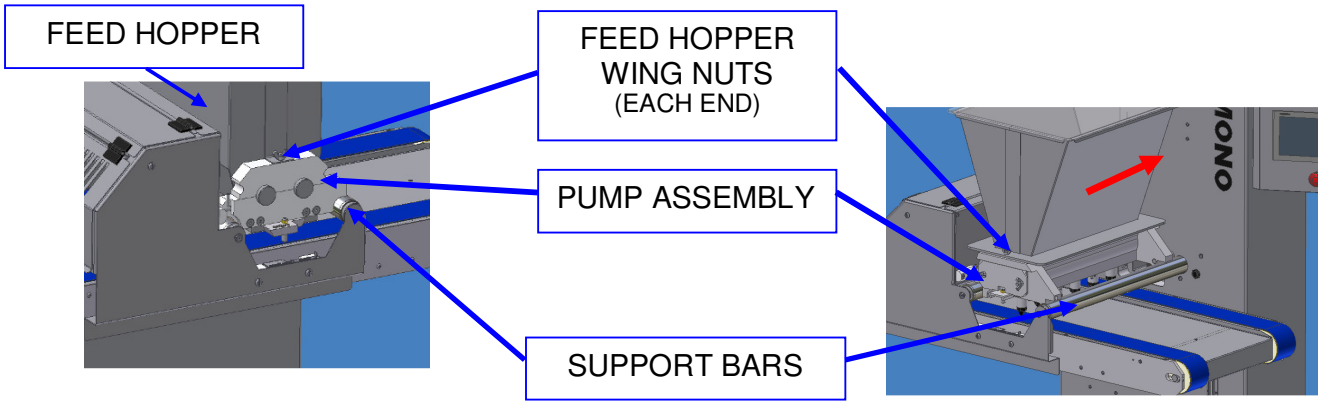
CAUTION SHOULD BE TAKEN WHEN FITTING THE HOPPER AND PUMP ASSEMBLY, AS WEIGHT EXCEEDS 25kgs ON SOME MODELS
It will need to be lifted on by two people, or dismantled into smaller components before fitting on the machine.
MAKE SURE THE FLOOR AREA AROUND THE MACHINE IS CLEAN

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.

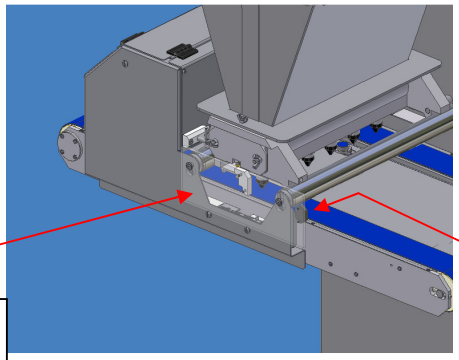
2 Fit hopper to pump assembly and secure with wing nuts.

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

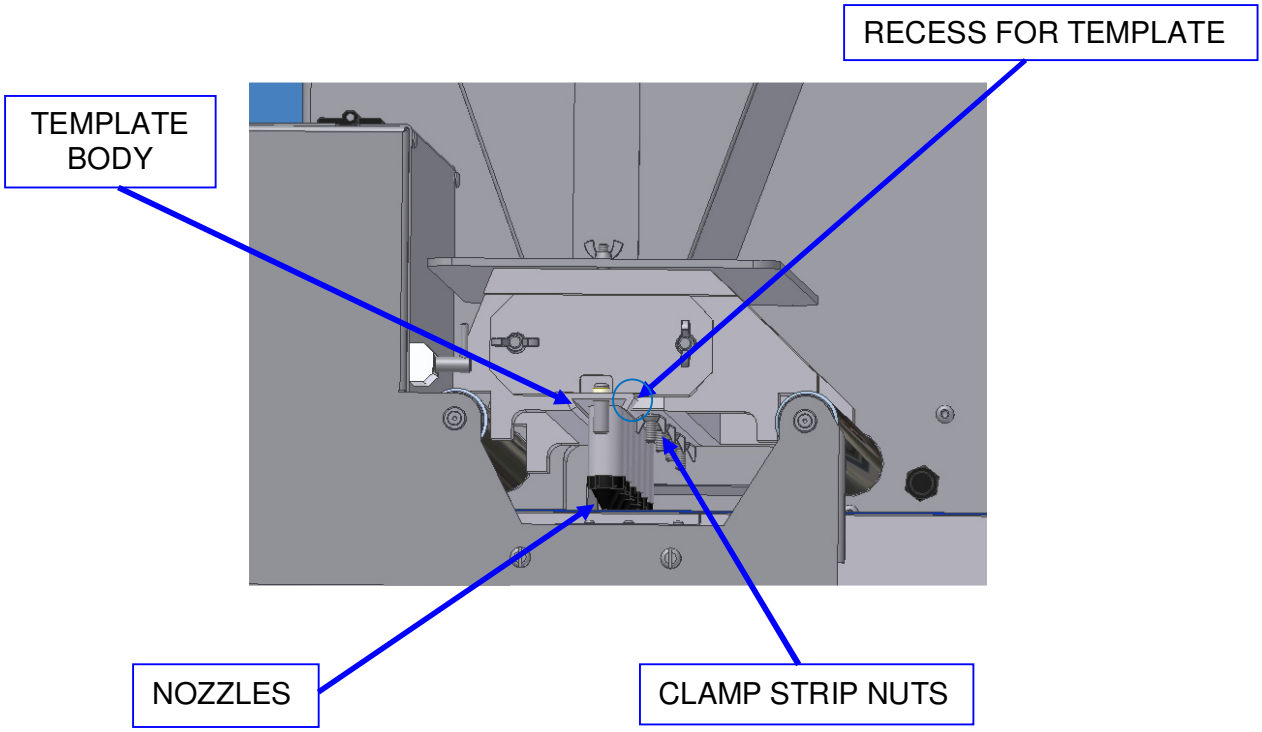
9b FITTING A TEMPLATE

- **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.*

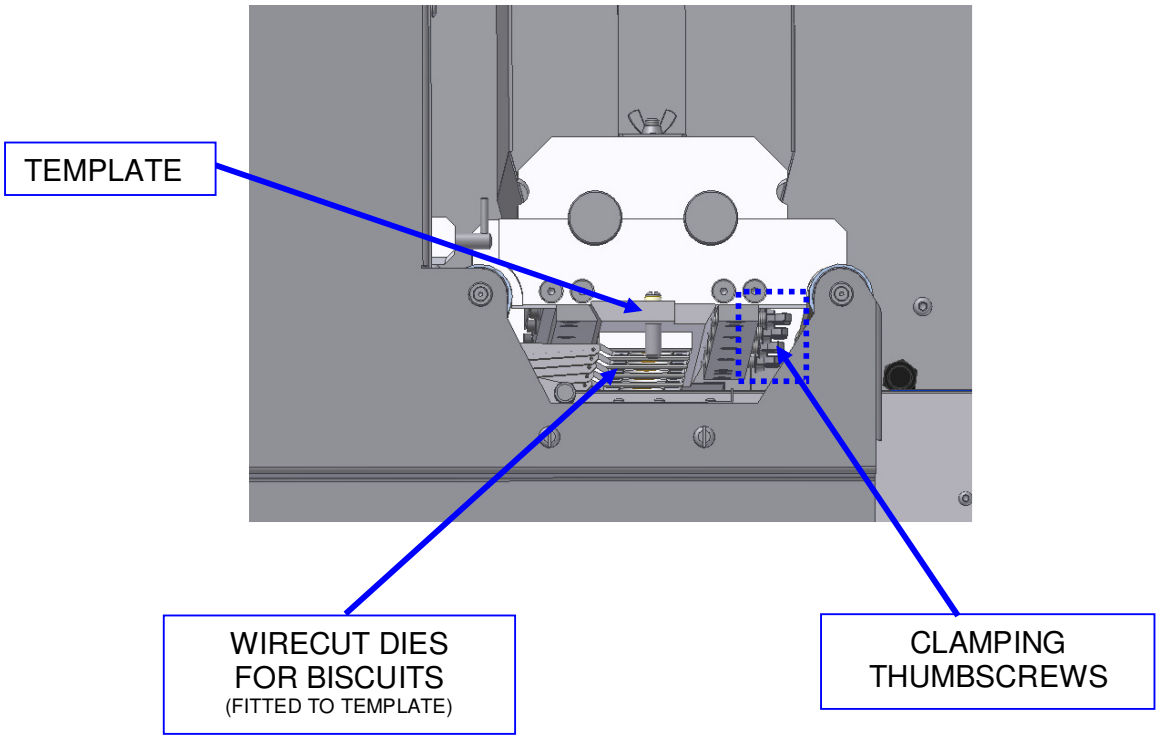
Rotary templates require nozzles to be secured in place with a separate nut.

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.



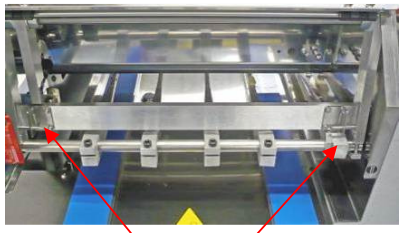
DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED

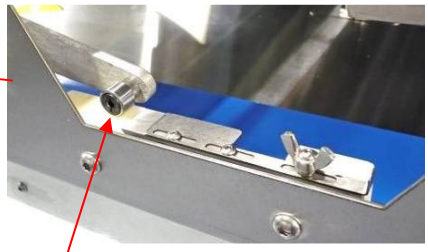
IF WIRECUT IS FITTED

FITTING WIRECUT FINGERS

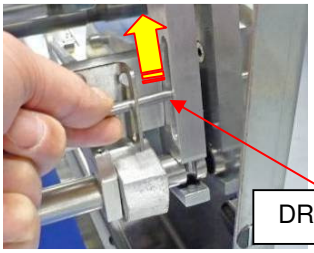
1. Select wirecut fingers that suit the chosen template to be used.i.e. the correct number to match the number of dies across template.

2. Remove drop arm pins and insert finger frame into arms. Ensure that the follower arm roller is positioned on the cam track.





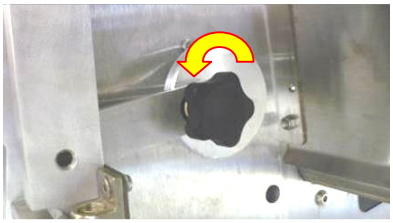
FOLLOWER ARM ROLLER



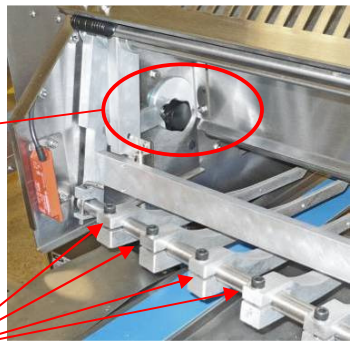
DROP ARM PINS

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

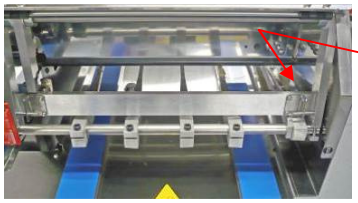


FINGER ADJUSTING BOLTS

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.



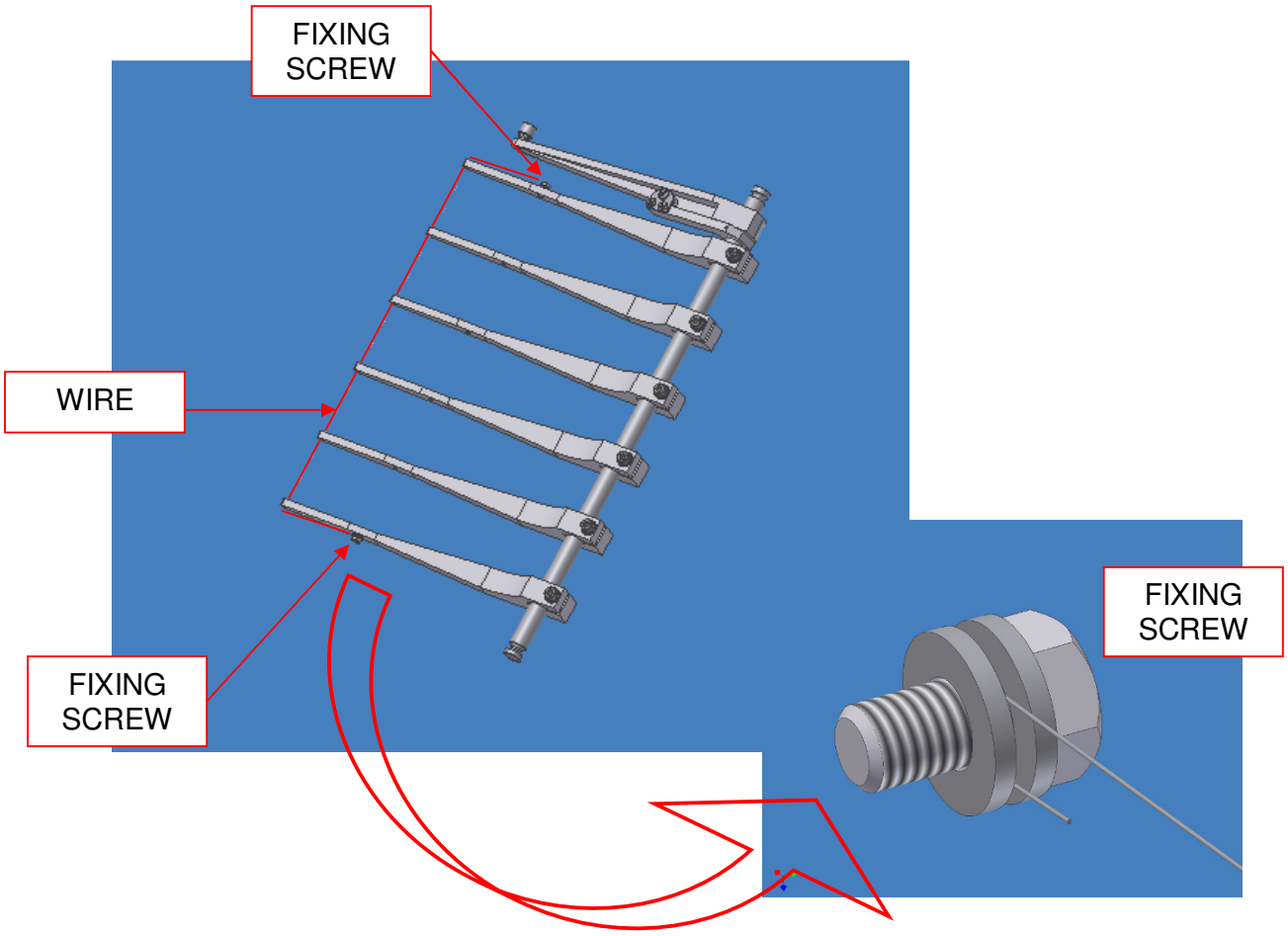
SPRING LOADED ADJUSTMENT SCREW

IF WIRECUT FITTED

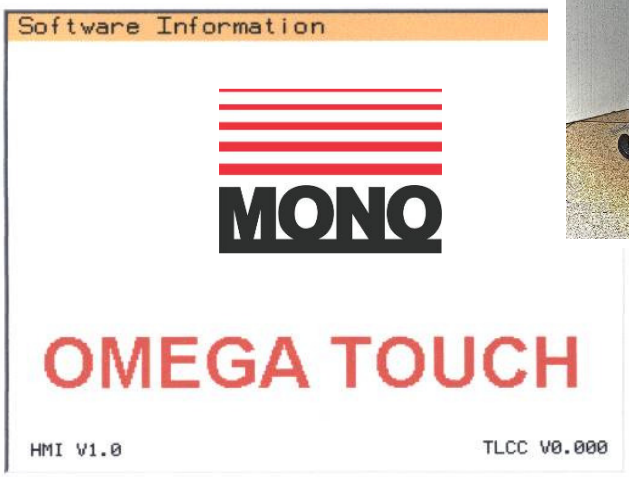
REPLACING BROKEN WIRE

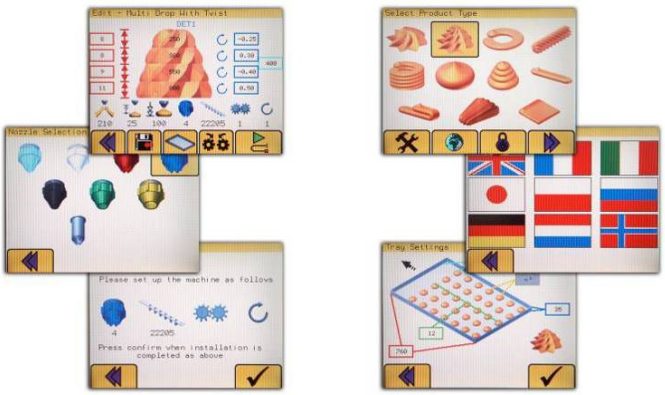
MAKE SURE THAT ALL PIECES OF WIRE HAVE BEEN FOUND BEFORE OPERATING MACHINE AFTER A WIRE REPLACEMENT.

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





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.

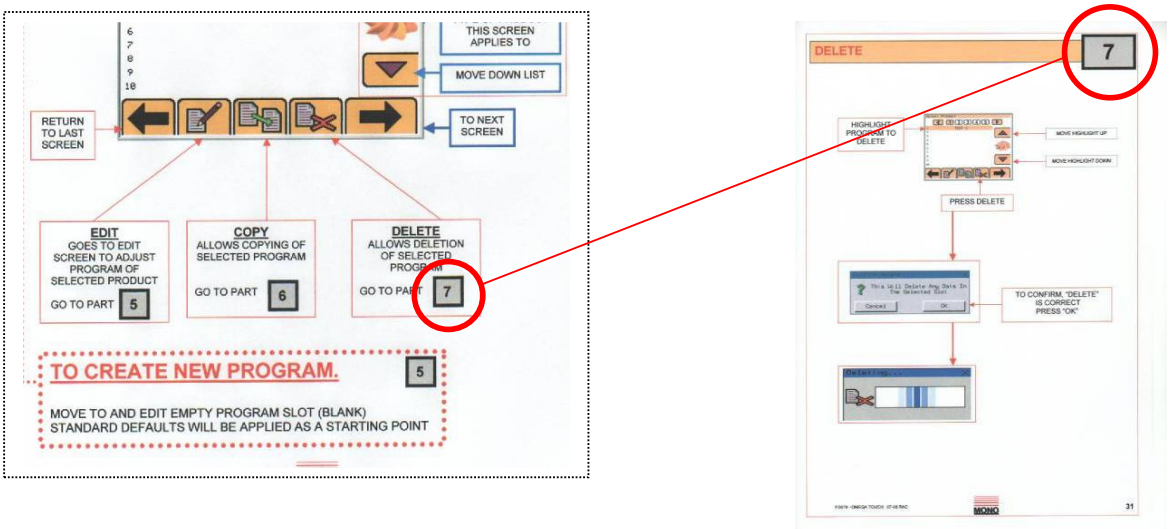
OPERATING KEY
FOR FOLLOWING INSTRUCTIONS

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.

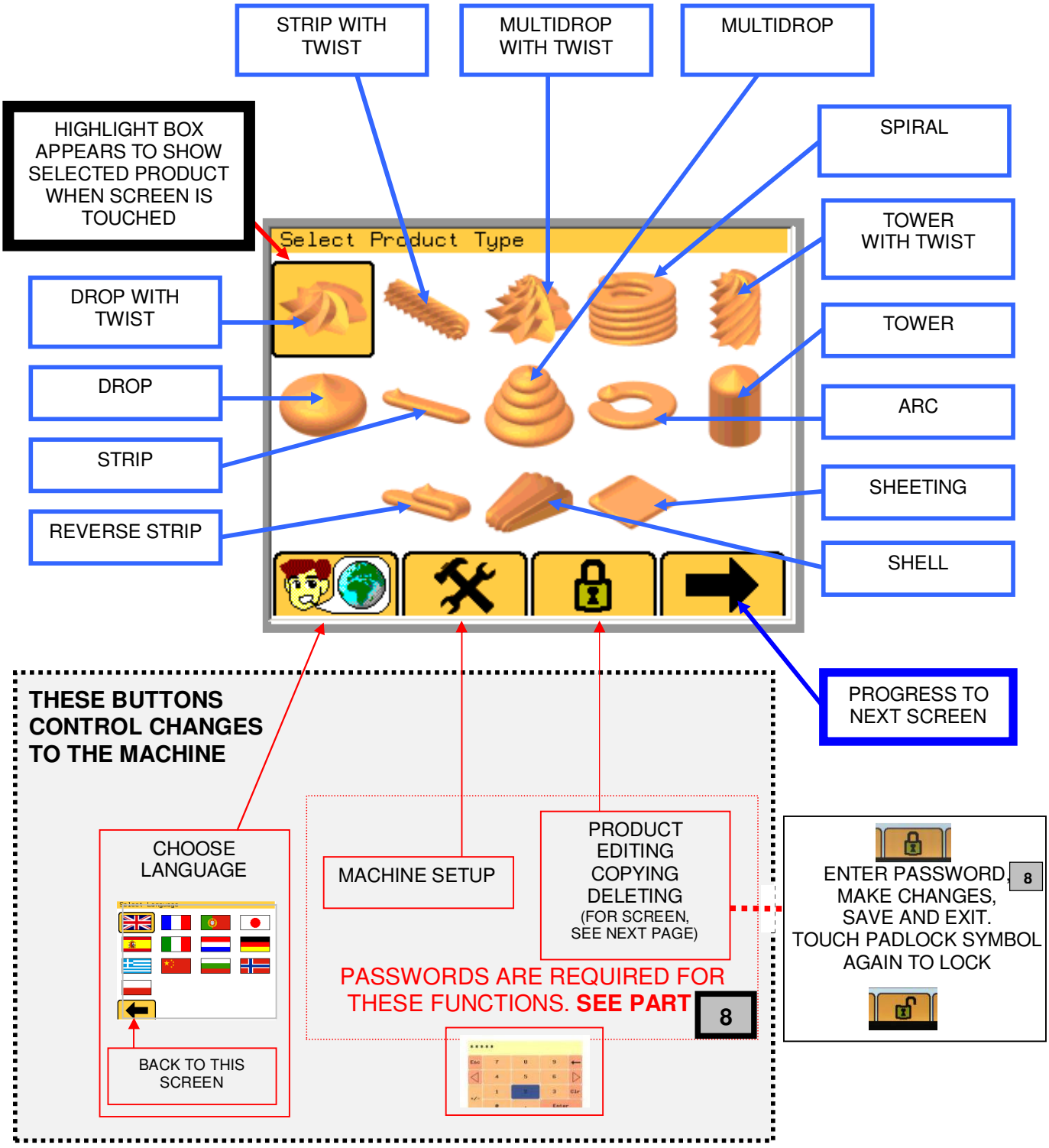
SELECT PRODUCT TYPE

SELECT PRODUCT TO DEPOSIT OR TO CREATE A NEW PROGRAM

1

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.

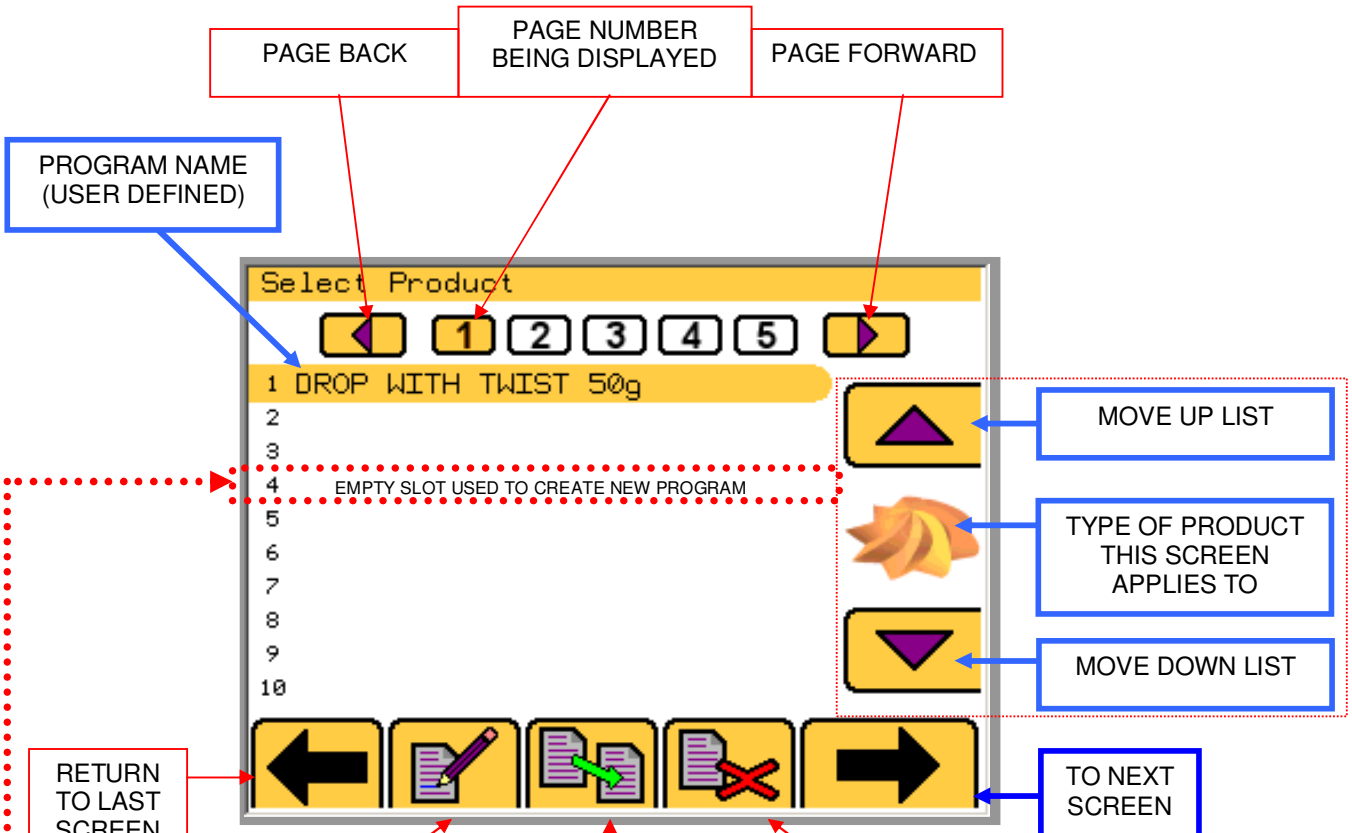
TOUCH THE SCREEN FOR THE TYPE OF PRODUCT REQUIRED
THEN ➡ TO MOVE TO THE NEXT SCREEN



SELECT SAVED PRODUCT TYPE

OR CHOOSE EMPTY SLOT TO CREATE A NEW PROGRAM

2



EDIT
GOES TO EDIT SCREEN TO ADJUST PROGRAM OF SELECTED PRODUCT

GO TO PART **5**

COPY
ALLOWS COPYING OF SELECTED PROGRAM

GO TO PART **6**

DELETE
ALLOWS DELETION OF SELECTED PROGRAM

GO TO PART **7**

TO CREATE A NEW PROGRAM. **5**

MOVE TO AND EDIT EMPTY PROGRAM SLOT (BLANK)
STANDARD DEFAULTS WILL BE APPLIED AS A STARTING POINT

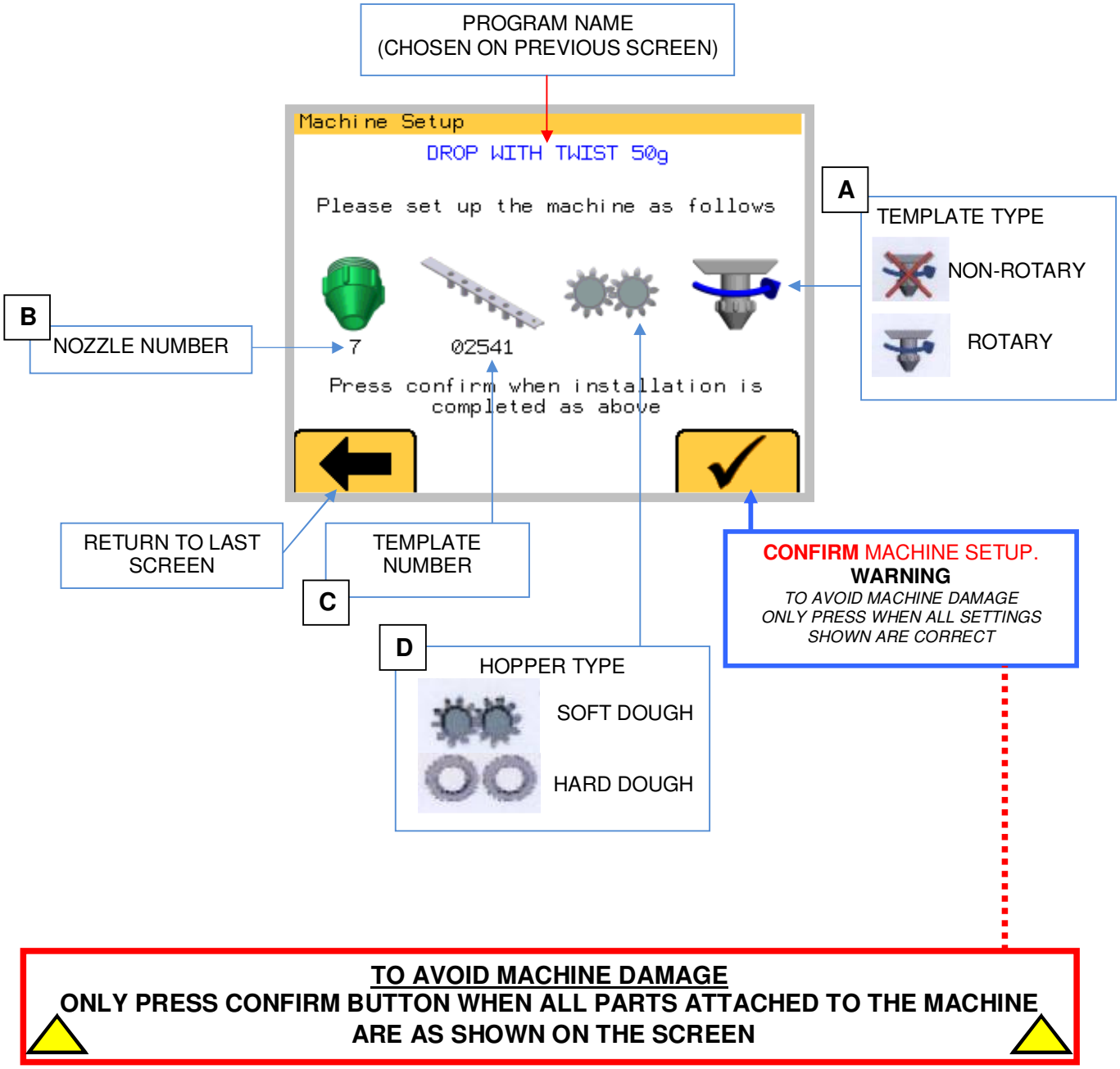
CONFIRM SETUP OF MACHINE

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.

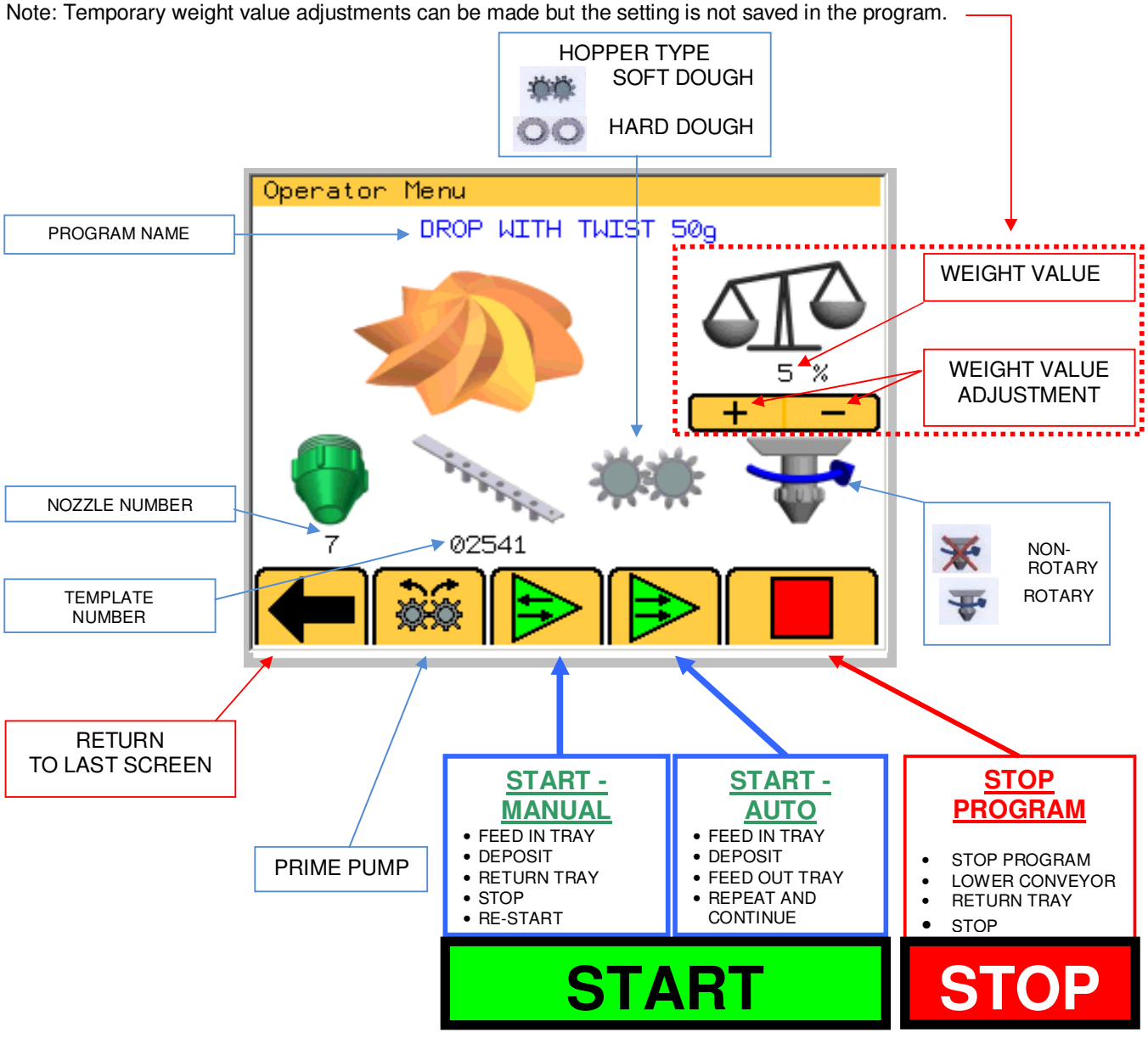
2. If the settings are correct, press the prime button to deposit a small amount onto a spare tray until all nozzles are depositing equally.

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.



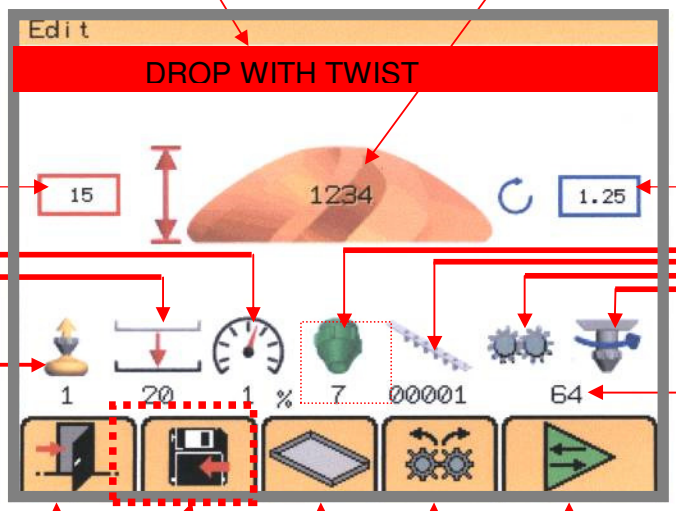
EDIT AND SAVE SCREEN

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

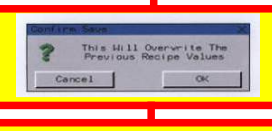


NOZZLE HEIGHT (mm)
ABOVE TRAY SURFACE

NOZZLE ROTATIONS
NUMBER OF TURNS DURING A DEPOSIT CYCLE

EXIT THIS SCREEN

SAVE EDITS



ENTER **TRAY SETUP** SCREEN

GO TO PART **5A**

MAX HEIGHT FOR HOPPER/TEMPLATE COMBINATION

START **MANUAL MODE**

PRIME PUMP
(SOFT DOUGH SHOWN)

NOTE

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

TEMPLATE TYPE
ROTARY
NON-ROTARY

SELECT HOPPER
HARD DOUGH
SOFT DOUGH

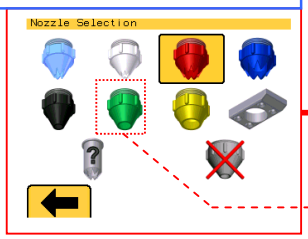
TEMPLATE NUMBER
ENTER VIA KEYPAD THAT APPEARS WHEN PRESSED

SUCK BACK
QUANTITY

TABLE
JOG DISTANCE (mm)

OVERALL
MACHINE SPEED
(% OF MAXIMUM)

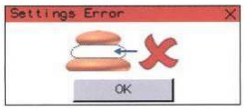
CHOOSE **NOZZLE TYPE**



EXAMPLE: MULTIDROP WITH TWIST

SETTING ERROR INDICATOR

BOXES TURN RED WHEN INCORRECT SETTING MADE

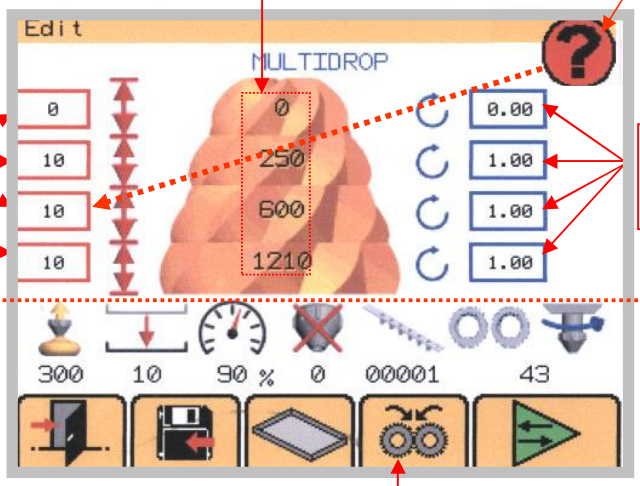


DEPOSIT QUANTITY FOR EACH LAYER

NOZZLE HEIGHT (mm) FOR EACH LAYER

NOZZLE HEIGHT (mm) FROM TRAY SURFACE

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



OTHER SETTING BUTTONS ARE THE SAME AS LAST PAGE

PRIME PUMP (HARD DOUGH SHOWN)

EXAMPLE: SHEETING / STRIP

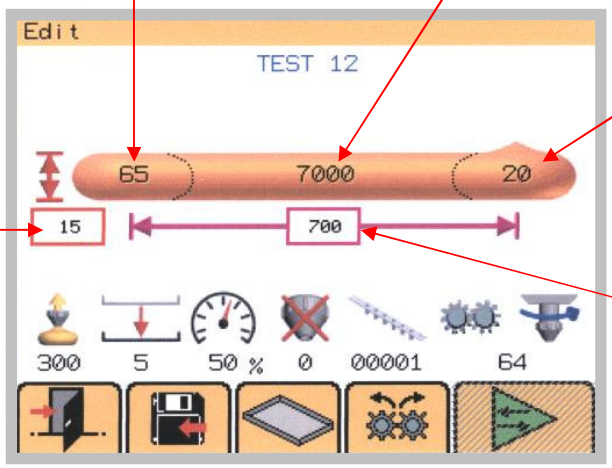
DEPOSIT QUANTITY FOR BEGINNING OF PRODUCT

DEPOSIT QUANTITY FOR LENGTH

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

NOZZLE HEIGHT ABOVE TRAY SURFACE

LENGTH (mm) OF TRAY MOVEMENT

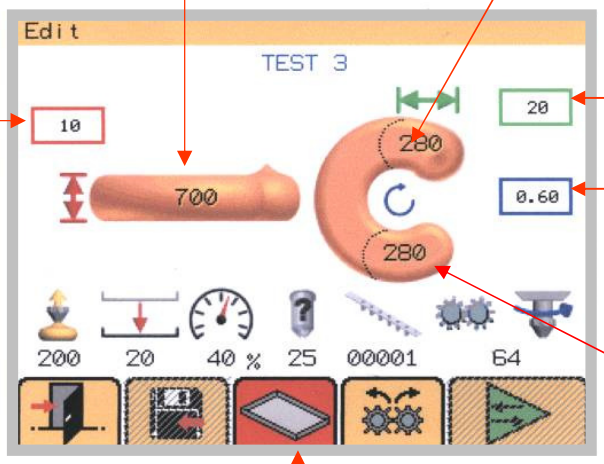


EXAMPLE:
"C" SHAPE
(ARC)

DEPOSIT QUANTITY
DURING ROTATION

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

NOZZLE HEIGHT
ABOVE TRAY
SURFACE



RADIUS (mm)
OF DEPOSIT

NOZZLE ROTATION
(NUMBER OF TURNS
DURING DEPOSIT)

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

RED TRAY SETUP BUTTON
FORCES USER TO ENTER AND
CHECK TRAY SETUP VALUES
(OTHER BUTTONS GREYED OUT)

GO TO PART
5A

TRAY SETUP

5A

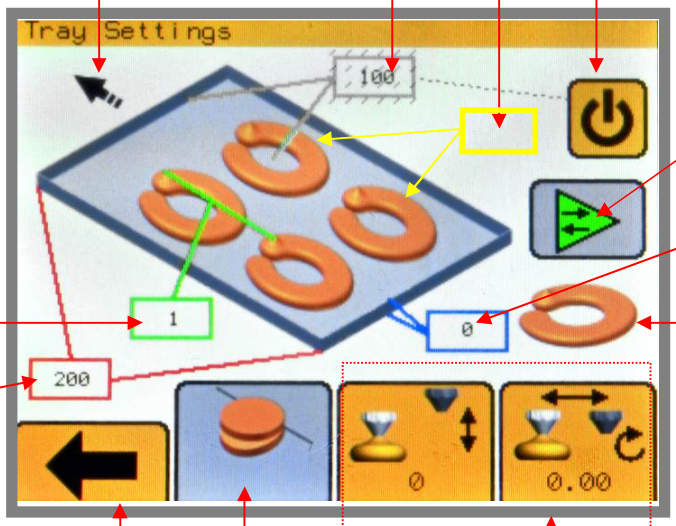
TOUCH WINDOWS AND ENTER VALUES VIA KEYPAD

DISTANCE (mm) TO 1ST ROW ON TRAY
(WHEN USING MANUAL OVER-RIDE)

DISTANCE (mm) BETWEEN ROWS
(WHEN USING MANUAL OVER-RIDE)

MANUAL OVER-RIDE FOR ROW SPACING
ON/OFF

DIRECTION OF TRAY MOVEMENT



TRAY FEED CONTROL

TRAY EDGE HEIGHT (mm)

NUMBER OF ROWS PER TRAY

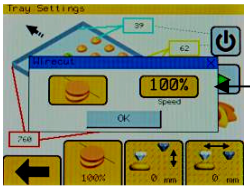
PRODUCT TYPE

TRAY LENGTH (mm)

TO LAST SCREEN

WIPE BACK BUTTON
(DISTANCE MOVED BY TRAY AFTER DEPOSIT)

ACTIVATE WIRECUT ON/OFF IF WIRECUT FITTED

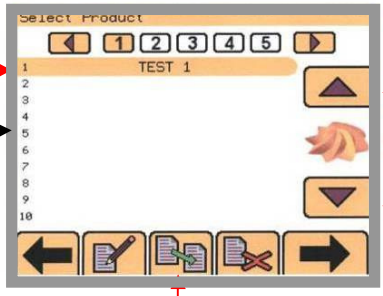


WHEN WIRECUT SELECTED, TOUCH SPEED AND ADJUST. PRESS OK.

COPY

6

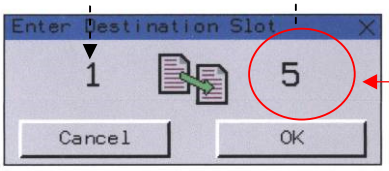
HIGHLIGHT PROGRAM TO COPY



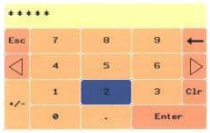
MOVE HIGHLIGHT UP

MOVE HIGHLIGHT DOWN

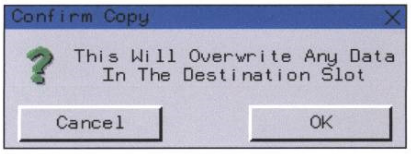
PRESS COPY



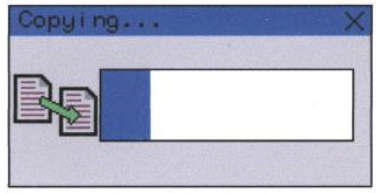
ENTER PROGRAM LIST POSITION REQUIRED TO COPY TO.



PRESS “OK”



CONFIRM “COPY TO” POSITION IS CORRECT PRESS “OK”

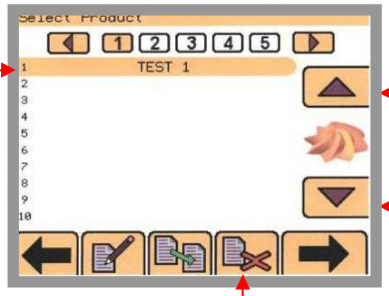


PROGRAM DETAILS ARE COPIED TO NEW LOCATION

DELETE

7

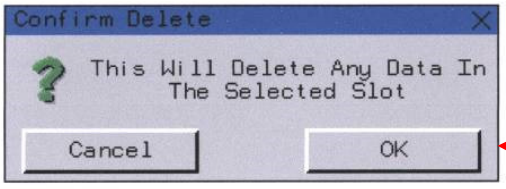
HIGHLIGHT PROGRAM TO DELETE



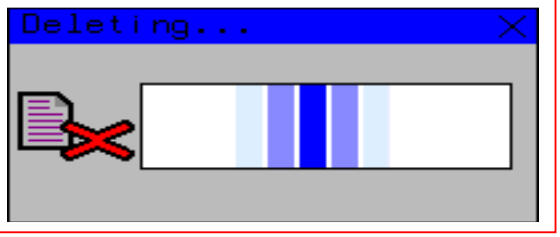
MOVE HIGHLIGHT UP

MOVE HIGHLIGHT DOWN

PRESS DELETE



TO CONFIRM, “DELETE” IS CORRECT PRESS “OK”

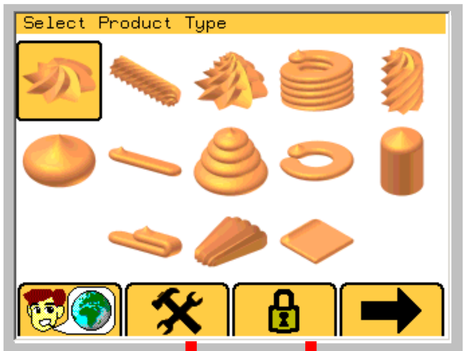


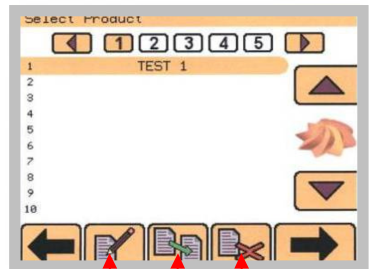
PASSCODES

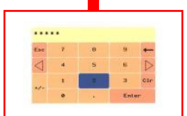
8

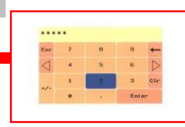
SUGGESTION
To stop unauthorised changes to the Omega setup, it is suggested that this page is removed from this manual and kept in a safe place for future reference.
If tampering could be a problem, It is also a good idea to change the passcodes at regular intervals.

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









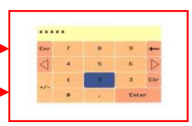
1111	2222
EDIT/COPY	EDIT/COPY DELETE

5
6
7

561234 – CHANGE PASSCODE

6

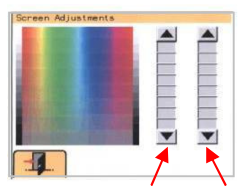
CHANGE EDIT/COPY PASSWORD



CHANGE EDIT/COPY/DELETE PASSWORD

7

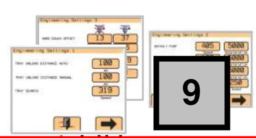
1234 – SCREEN ADJUSTMENT



FINE / COARSE

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

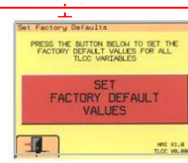
3142 -- ENGINEERING SETTINGS



9

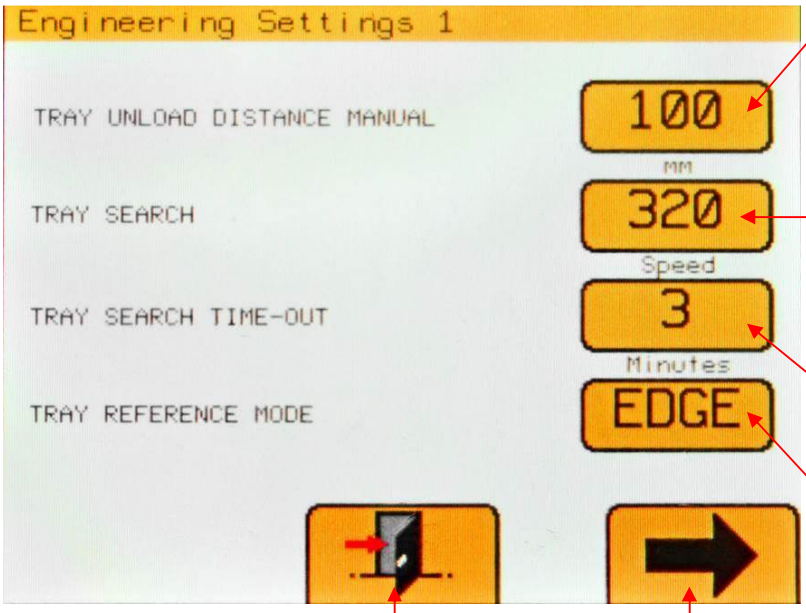
2808 -- DIAGNOSTICS

RESET FACTORY DEFAULTS
01554777460



ENGINEERING SETTINGS (1)

THIS SECTION IS FOR TRAINED ENGINEERS ONLY



IN MANUAL MODE:
DISTANCE THE LEADING EDGE OF THE TRAY IS BROUGHT BACK PASSED THE TRAY SENSOR, WHEN RETURNING TO OPERATOR

SPEED VALUE THAT TRAY IS FED UP TO TRAY SENSOR

TRAY SEARCH TIMEOUT

HOME OR EDGE

EXIT THIS SCREEN

GO TO NEXT SCREEN ENGINEERING SETTING 2 (NEXT PAGE)

CAUTION

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

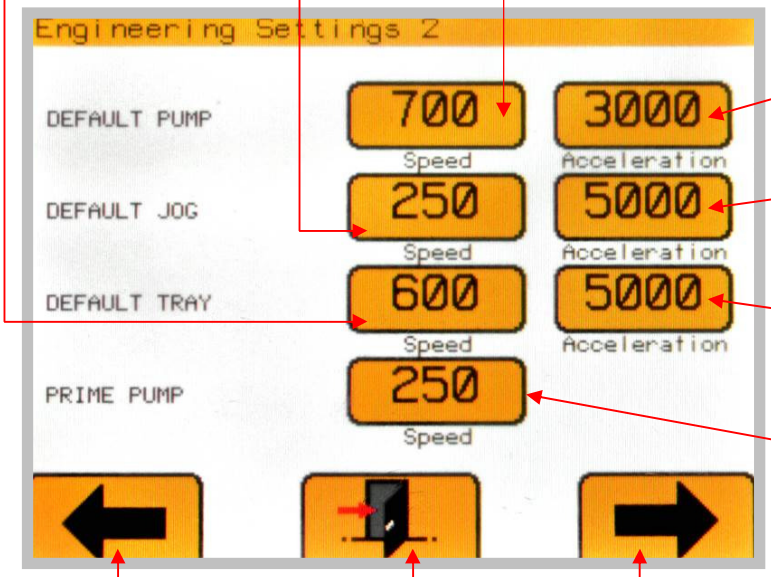
ENGINEERING SETTINGS (2)

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)

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

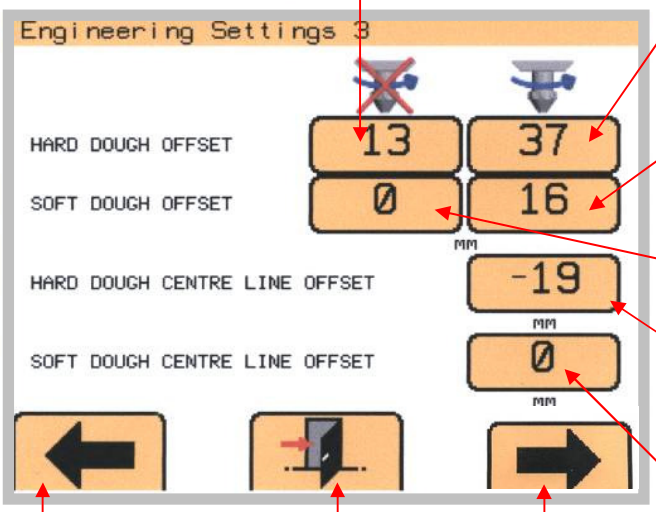
OFFSET HEIGHT VALUE IS FACTORY SET AND SHOULD NOT BE CHANGED UNLESS INSTRUCTED TO DO SO.
DAMAGE TO THE MACHINE COULD OCCUR

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

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)

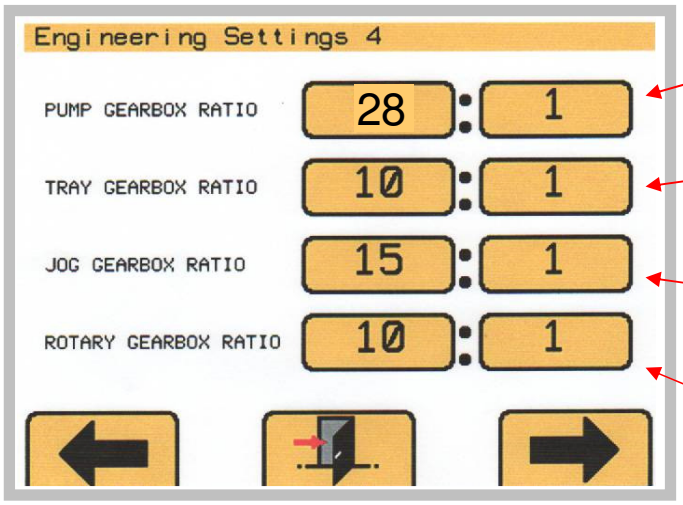
CAUTION

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

ENGINEERING SETTINGS (4)

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

GEARBOX RATIOS



PUMP

TRAY

JOG

ROTARY

EXIT
THIS SCREEN

GO TO PREVIOUS SCREEN
ENGINEERING SETTING 3
(PREVIOUS PAGE)

GO TO NEXT SCREEN
ENGINEERING SETTING 5
(NEXT PAGE)

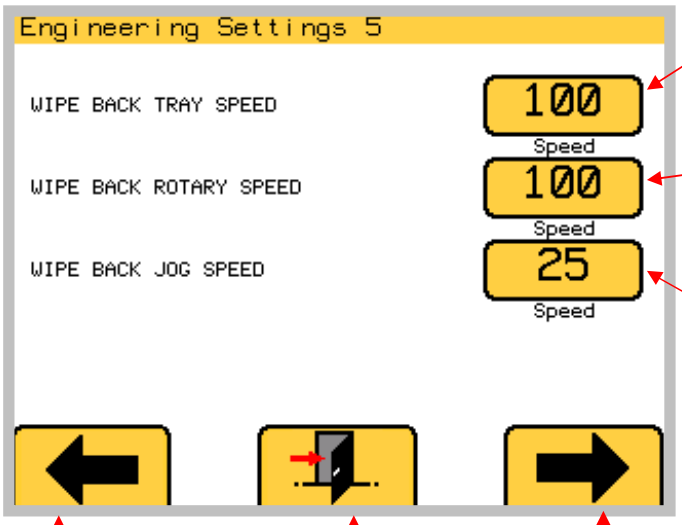
CAUTION

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

ENGINEERING SETTINGS (5)

THIS SECTION IS FOR TRAINED ENGINEERS ONLY

WIPE BACK DEFAULT SETTINGS (SEE 5A)



TRAY SPEED

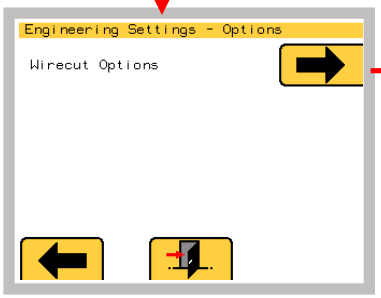
ROTARY SPEED

JOG SPEED

EXIT
THIS SCREEN

GO TO NEXT SCREEN
FOR WIRECUT OPTIONS
(IF WIRECUT FITTED)

GO TO PREVIOUS SCREEN
ENGINEERING SETTING 4
(PREVIOUS PAGE)



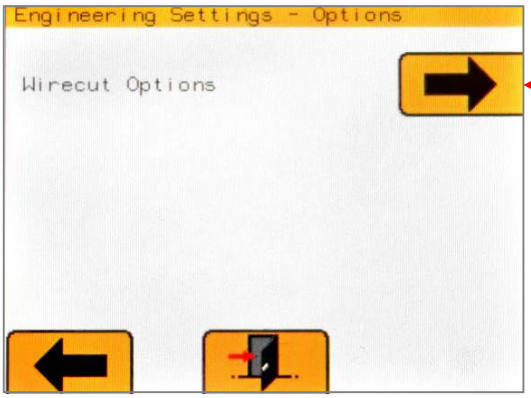
NEXT
SCREEN
FOR
WIRECUT
SETUP

CAUTION

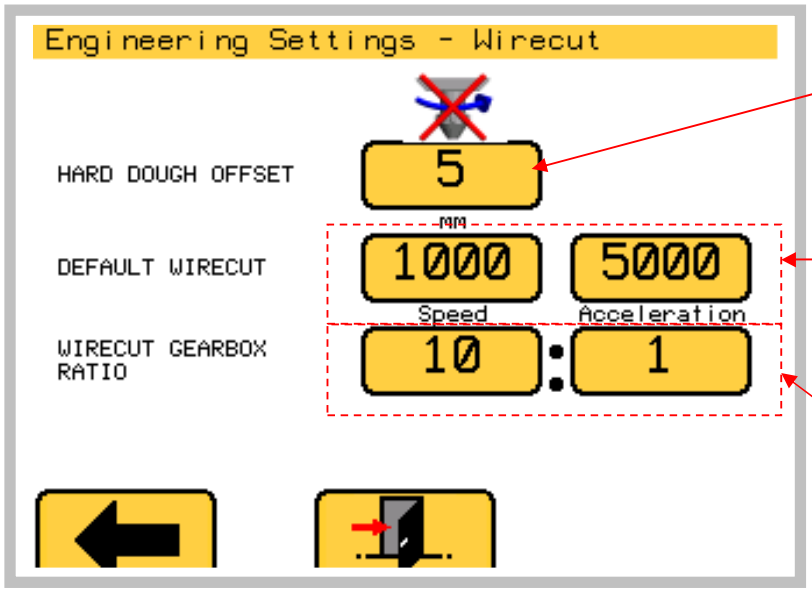
DO NOT ATTEMPT TO MAKE ADJUSTMENTS UNLESS YOU ARE FULLY AWARE OF THE RESULTS

NEXT PAGE

WIRECUT SETTINGS



PROCEED TO WIRECUT SETTINGS PAGE



HARD DOUGH OFFSET

WIRECUT SPEED + ACCELERATION

WIRECUT GEARBOX RATIO

EXIT ENGINEERING SETTINGS

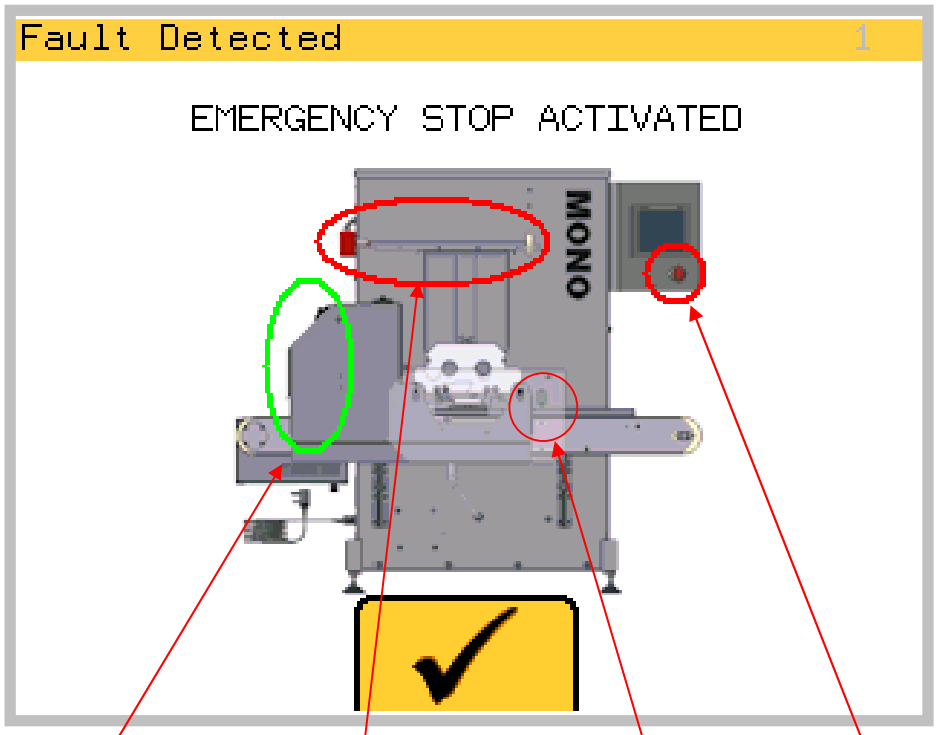
GO TO PREVIOUS SCREEN **ENGINEERING SETTING 4** (PREVIOUS PAGE)

CAUTION

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

FAULT INFORMATION SCREENS

10



WIRECUT COVER (IF FITTED)

HOPPER COVER

SAFETY BEAM

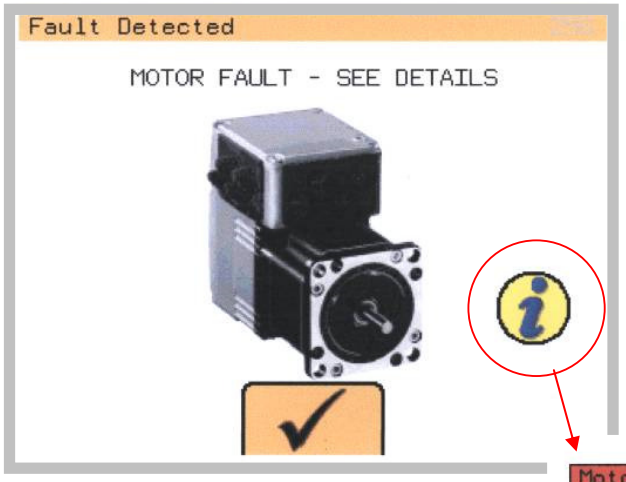
STOP BUTTON

THIS SCREEN INDICATES A FAULT CONDITION IN THE SAFETY AREAS.

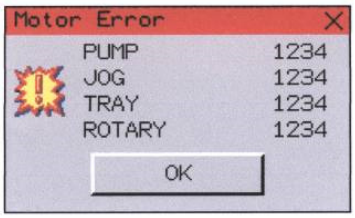
WHEN RED, CLOSE COVER OR CLEAR OBSTRUCTIONS TO CLEAR FAULT.
WHEN INDICATOR GOES GREEN, FAULT HAS BEEN CORRECTED AT THAT POSITION.

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

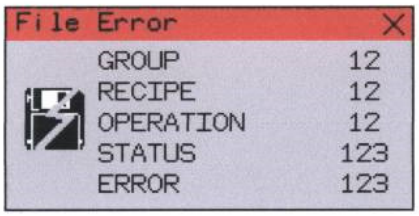
IF THE FOLLOWING SCREEN APPEARS, CHECK THAT THE TABLE MOVEMENT ETC. IS NOT JAMMED WITH SOMETHING. IF IT IS, CLEAR THE OBSTRUCTION AND PRESS ☑ TO PROCEED.



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

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

.

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

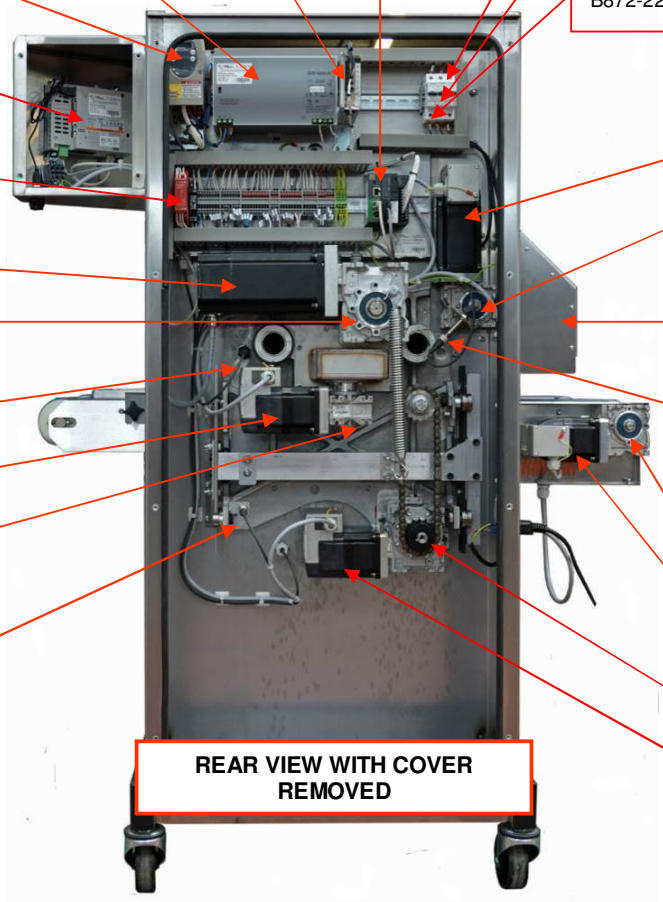
BASE MACHINE SPARES LIST

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	078-11-00036	1
(Earlier plastic version	078-11-00005)	
Retainer – End Guard	078-11-00035	2
(Earlier plastic version	078-11-00002)	
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



36V PSU
B782-93-001

24V PSU
B801-93-005

M251 CONTROLLER
B801-94-013

MCB 10amp
B872-22-102

MCB 16amp
B872-22-006

MCB 4amp
B872-22-003

DEPOSIT MOTOR DRIVE
B781-80-002

HMI
B801-94-013

SAFETY RELAY
B801-11-019

DEPOSIT MOTOR
B781-74-005

DEPOSIT GEARBOX
A900-11-097

PHOTOCELL
B801-99-010

ROTARY MOTOR
B781-74-003

ROTARY GEARBOX
A900-11-091

JOG SENSOR
B801-99-012

WIRECUT MOTOR
B781-74-009

WIRECUT GEARBOX

GUARD SWITCH
B801-07-005

WIRECUT SENSOR

TRAY GEARBOX
A900-11-091

TRAY MOTOR
B781-74-004

JOG GEARBOX
A900-11-092

JOG MOTOR
B781-74-002

REAR VIEW WITH COVER REMOVED

EMERGENCY STOP BUTTON
B801-12-003

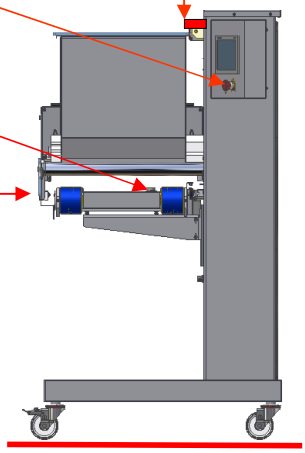
LEGEND
B801-15-025

TRAY SENSOR
B801-99-011

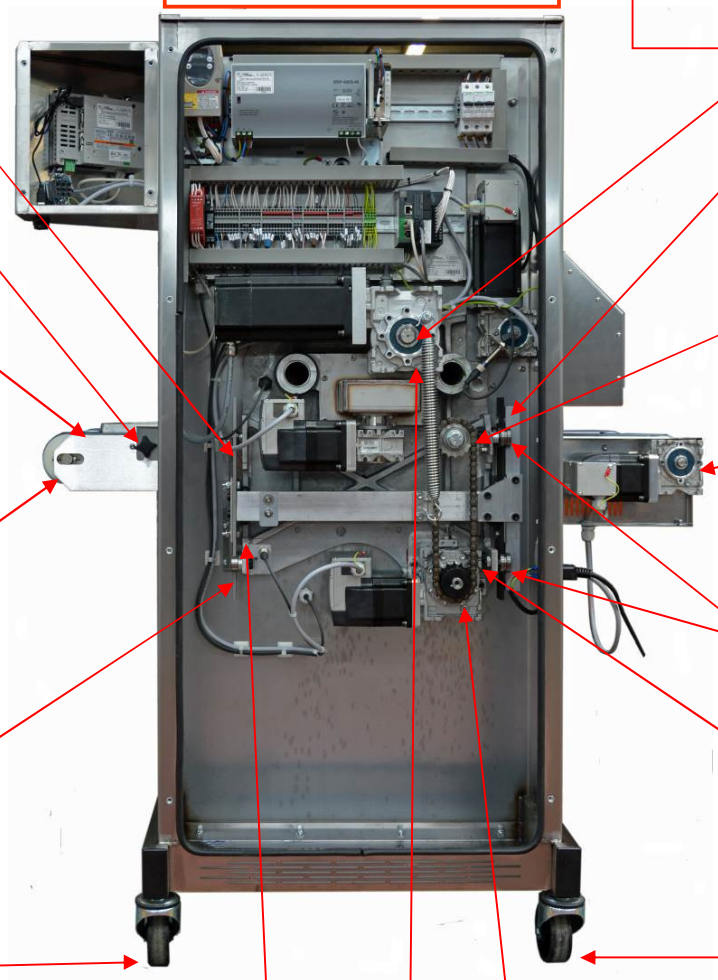
REFLECTOR
B801-99-008

HOPPER GUARD SWITCH
B801-07-005

HOPPER GUARD ACTUATOR MAGNET
B801-45-007



SIDE VIEW


REAR VIEW WITH COVER REMOVED
DEPOSIT DRIVE SHAFT SEAL
A900-12-079
SLIDE PLATE
078-03-00027
V-SLIDE
M078-03-00016
THUMBSCREW
P700-04-018
IDLE SPROCKET
A900-07-072
CONVEYOR BELT
A900-22-120
BEARING FOR DRIVE SHAFT
A900-06-277
NYLON WASHER FOR IDLE ROLLER
A900-05-210
V-ROLLER
CONCENTRIC-A900-06-274
ECCENTRIC – A900-06-
PLAIN ROLLER
A900-06-136
CHAIN
A900-08-066
LOCKING CASTOR
A900-20-077
SWIVEL CASTOR
A900-20-076
RUBBER FOOT
A900-18-006
DRIVE SPROCKET
A900-07-071
ROTARY DRIVESHAFT SEAL
A900-12-075

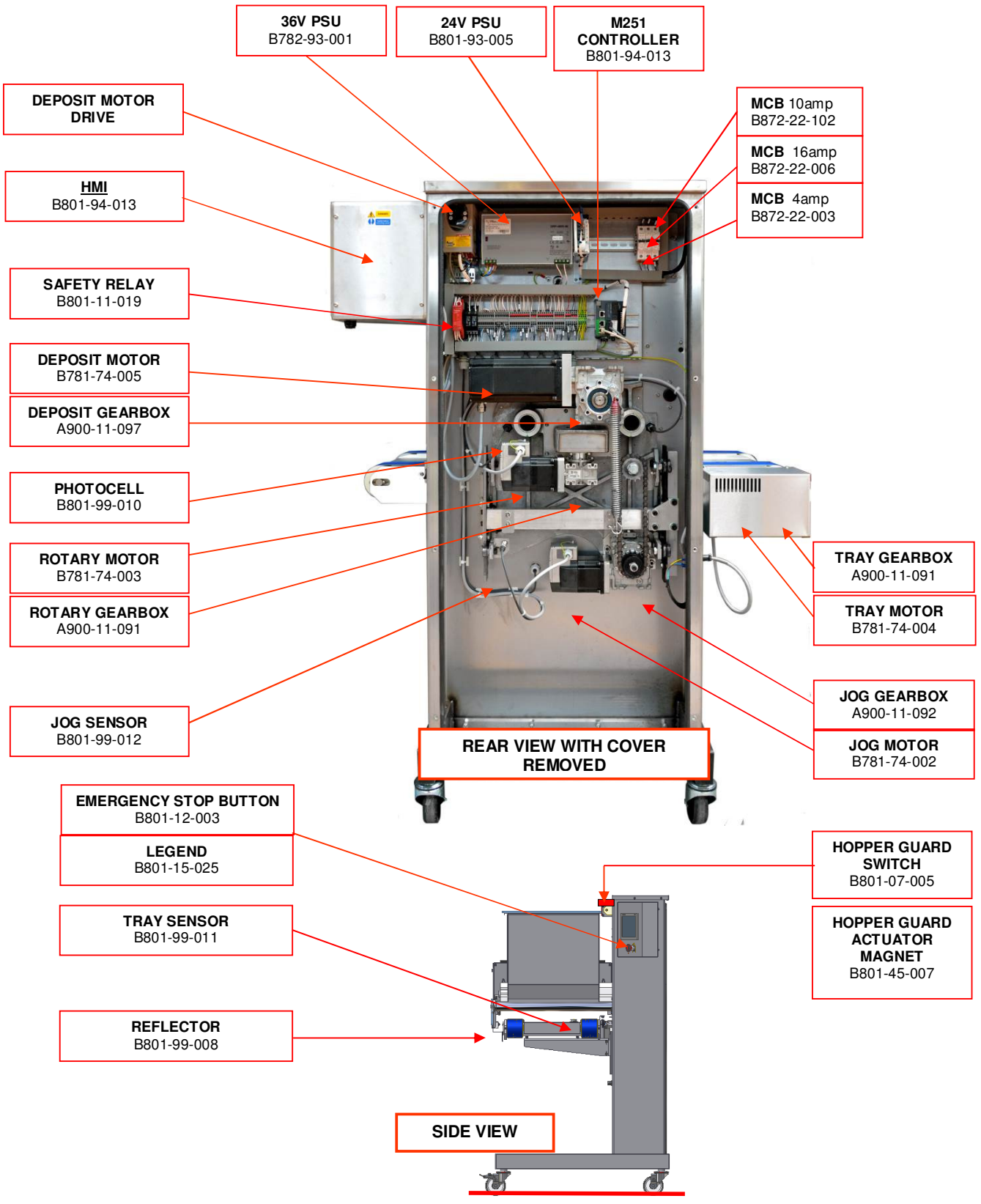
BASE MACHINE SPARES LIST

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	078-11-00036	1
(Earlier plastic version	078-11-00005)	
Retainer – End Guard	078-11-00035	2
(Earlier plastic version	078-11-00002)	
Spacer – 450mm/580mm Hopper	078-11-00003	1
Spacer – 400mm Hopper	078-11-00004	1
Seal-Rear Cover	A900-25-309	1

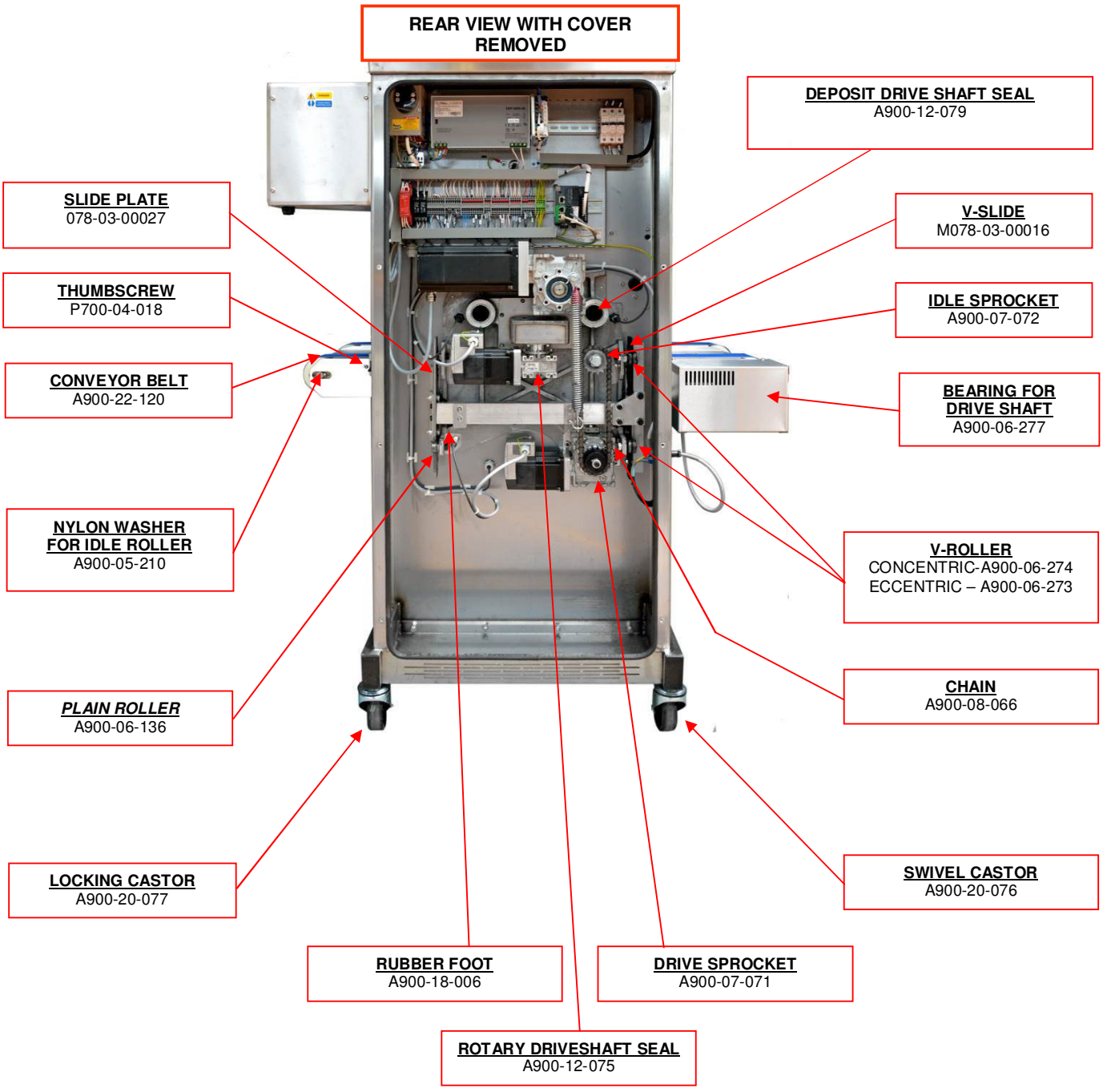
ELECTRICAL COMPONENT LAYOUT PARTS

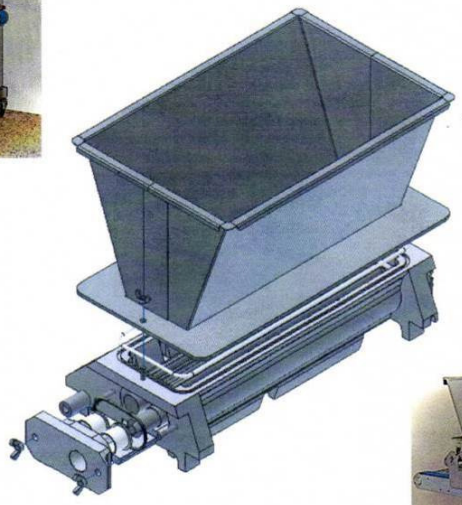
Omega PLUS -- NO WIRECUT VERSION



MECHANICAL COMPONENT LAYOUT PARTS

Omega PLUS -- NO WIRECUT VERSION

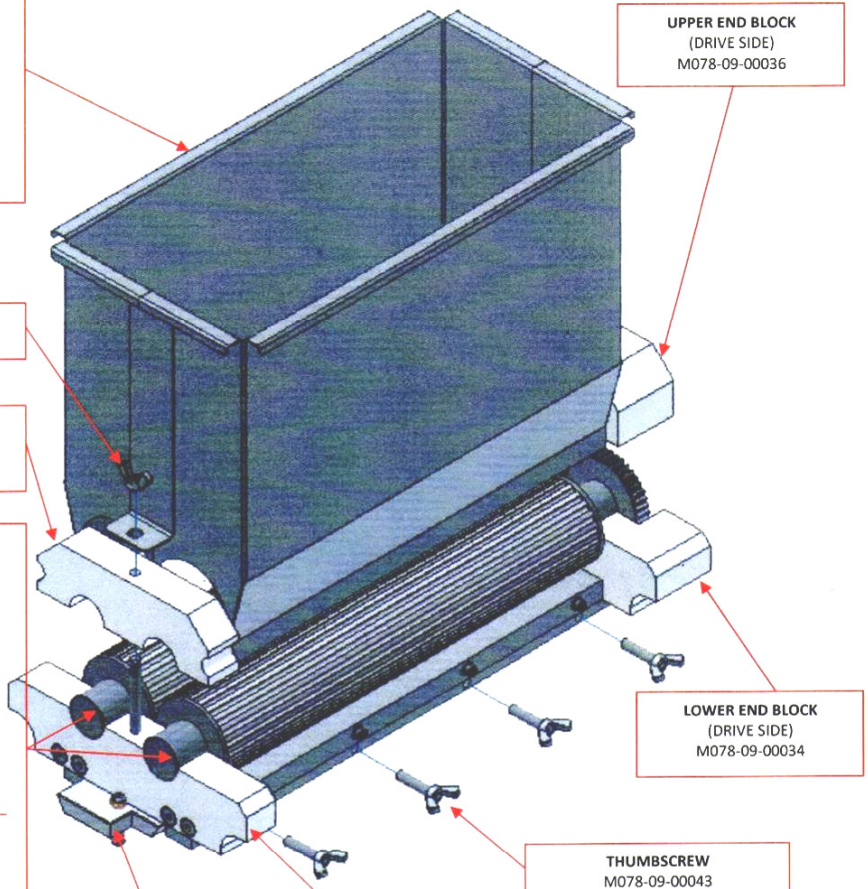




Omega
HOPPER PARTS

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

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

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

TEMPLATES
TO CUSTOMER REQUIREMENTS

ROTARY
- SMALL BORE
- LARGE BORE

STANDARD
- SMALL BORE
- LARGE BORE

DIE

SHEETING

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

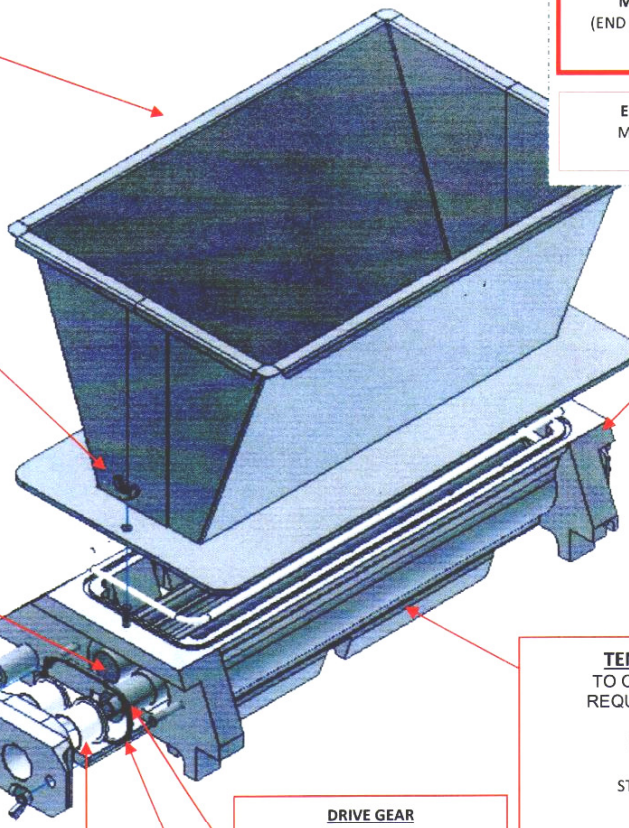
POUR-THROUGH TOP GUARD (NOT SHOWN)

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



HOPPER FABRICATION

STANDARD CAPACITY

M078-09-00008 (400mm)
M078-09-00001 (450mm
M078-09-00046 (580mm)

EXTENDED CAPACITY

M073-09-00200 (400mm)
M073-09-00202 (450mm)
M073-09-00203 (580mm)

END CAP (NON-DRIVE SIDE)
M073-09-03200

END CAP ASSEMBLY
(NON-DRIVE SIDE)
M073-KMX002
(END CAP AND BUSHES FITTED)

END CAP BUSH
M073-09-00600

WINGNUT
A900-04-043

HOPPER SEAL

A900-12-083 (400mm)
A900-12-084 (450mm)
A900-12-085 (580mm)

DRIVEN GEAR

M073-09-00702 (400mm)

M073-09-01602 (450mm)

M073-09-01702 (580mm)

WINGNUT
A900-04-147

END CAP (DRIVE SIDE)
M073-09-00500

END CAP ASSEMBLY (DRIVE SIDE)
M073-KMX001
(END CAP AND BUSHES FITTED)

END CAP BUSH
M073-09-00600

DRIVE GEAR

M073-09-00700 (400mm)

M073-09-01600 (450mm)

M073-09-01700 (580mm)

END CAP SEAL
A900-12-074

TEMPLATES
TO CUSTOMER REQUIREMENTS

ROTARY

STANDARD

DIE

STAGGERED

SHEETING
- NON-DRIP
- MULTI SHEETING

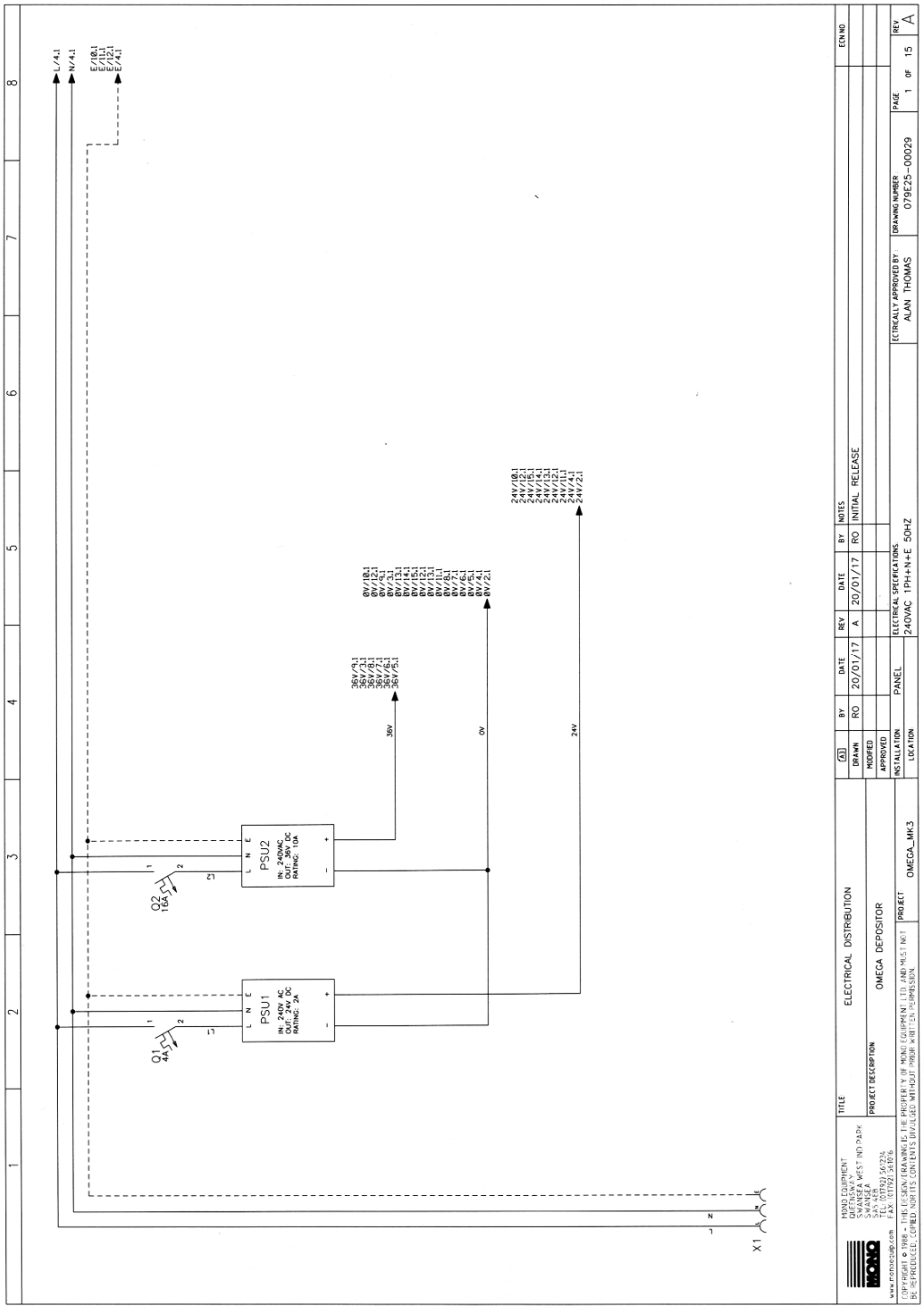
INJECTION

POUR-THROUGH TOP GUARD (NOT SHOWN)

STANDARD	400MM	078-11-00066
	450MM	078-11-00067
	580MM	078-11-00068
EXTENDED	400MM	078-11-00063
	450MM	078-11-00064
	580MM	078-11-00065

Actuator magnet on all guards B801-45-007

13.0 ELECTRICAL INFORMATION


L/4.1
N/4.1
E/10.1
E/11.1
E/12.1
E/4.1
PSU2
IN: 240VAC
OUT: 36VDC
RATING: 10A
PSU1
IN: 240V AC
OUT: 24V DC
RATING: 2A
Q2
16A
Q1
4A
36V/9.1
36V/7.1
36V/8.1
36V/7.1
36V/6.1
36V/5.1
36V
0V/10.1
0V/12.1
0V/15.1
0V/14.1
0V/13.1
0V/12.1
0V/11.1
0V/8.1
0V/7.1
0V/6.1
0V/5.1
0V/4.1
0V/2.1
0V
24V/10.1
24V/12.1
24V/15.1
24V/14.1
24V/13.1
24V/12.1
24V/11.1
24V/4.1
24V/2.1
24V
X1
L
N
MIND EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA
SA5 4EB
TEL: 01792 561234
FAX: 01792 561816
www.mindequip.com
TITLE
ELECTRICAL DISTRIBUTION
PROJECT DESCRIPTION
OMEGA DEPOSITOR
PROJECT
OMEGA_MK3
DRAWN
MODIFIED
APPROVED
INSTALLATION
LOCATION
BY
RO
DATE
20/01/17
PANEL
REV
A
DATE
20/01/17
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
BY
RO
NOTES
INITIAL RELEASE
ECN NO
ELECTRICALLY APPROVED BY:
ALAN THOMAS
DRAWING NUMBER
079E23-00029
PAGE
1 OF 15
REV
A
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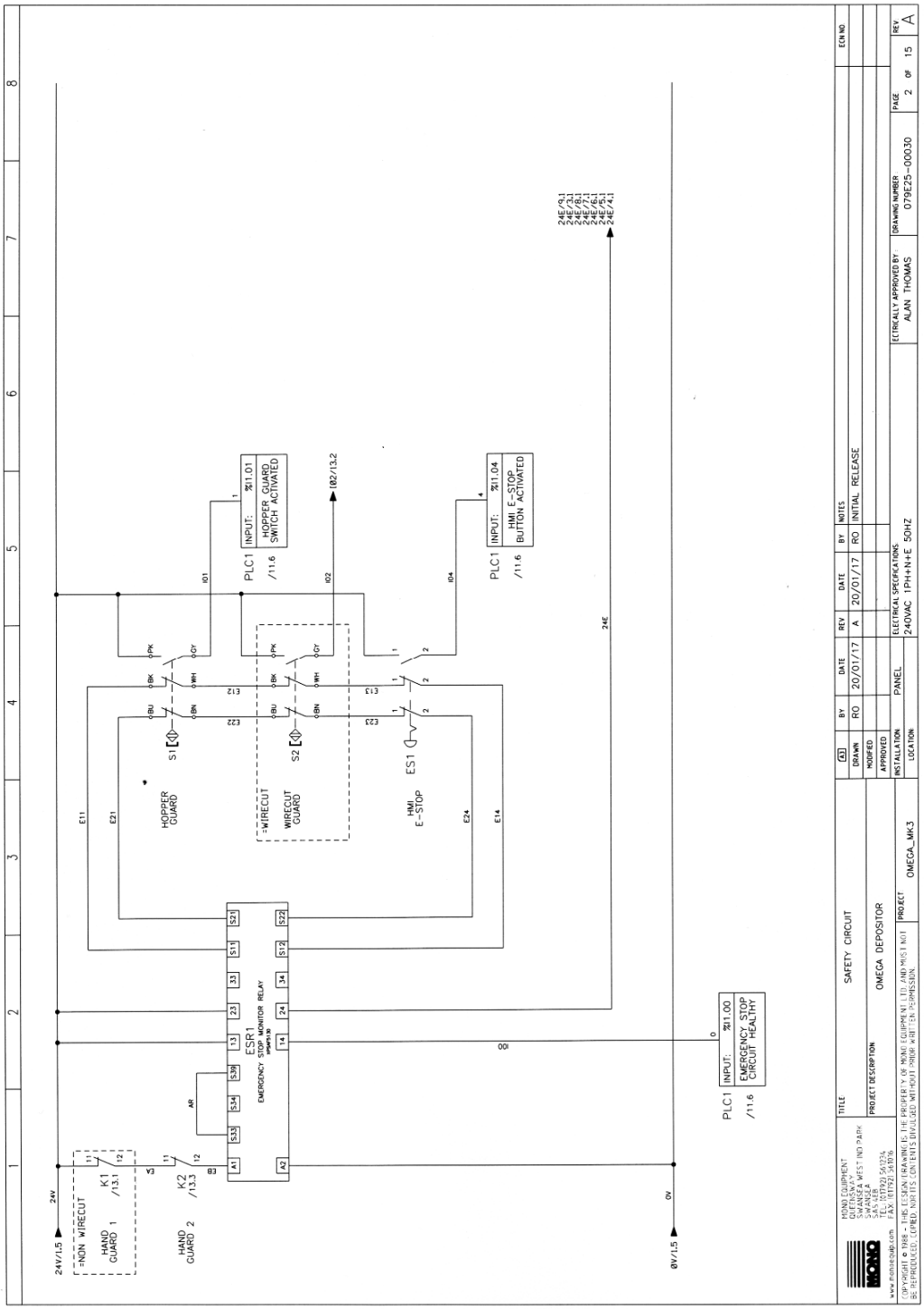
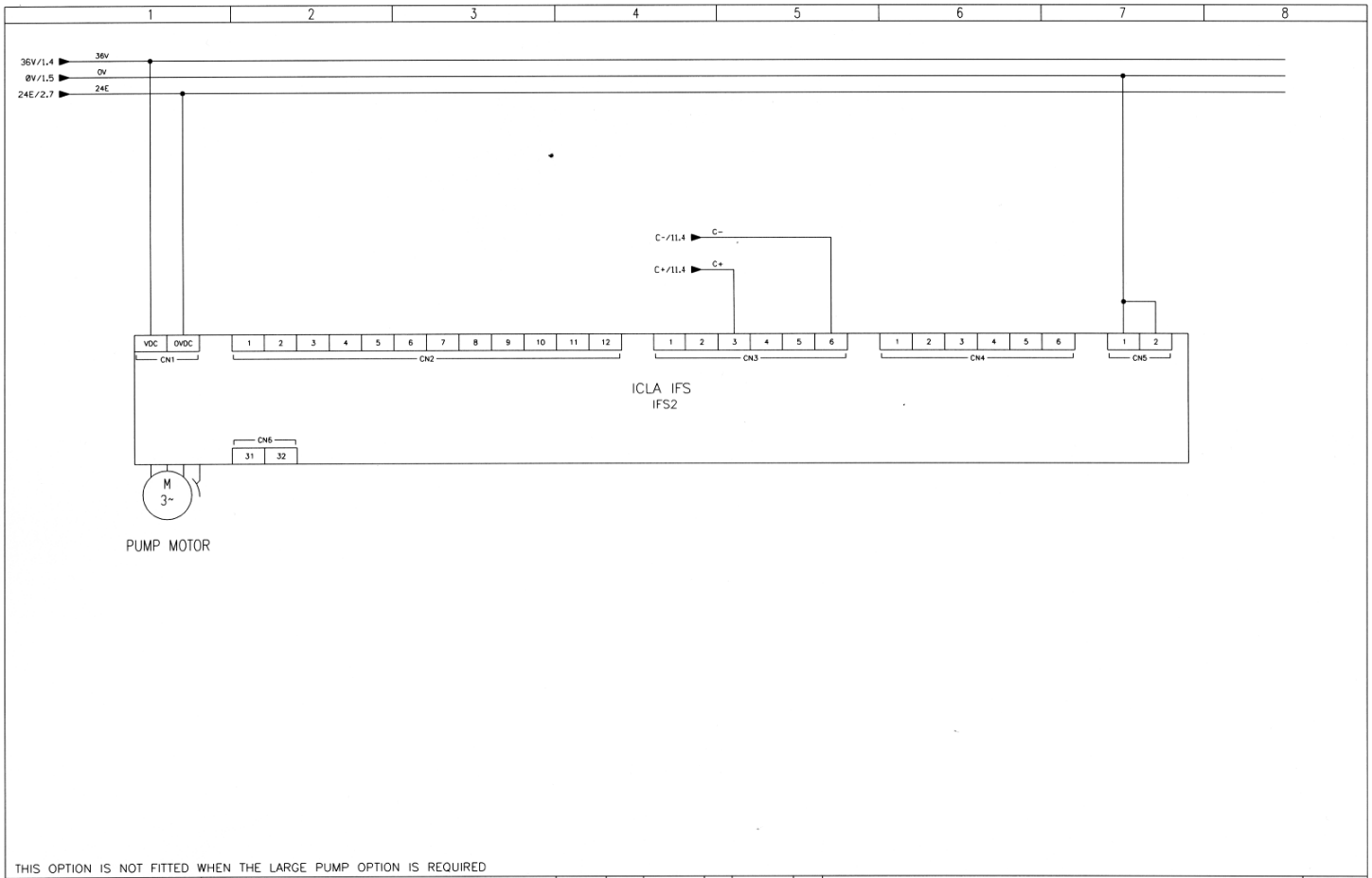

SAFETY CIRCUIT
OMEGA DEPOSITOR
OMEGA_MK3
HOPPER GUARD
WIRECUT GUARD
HMI E-STOP
ESR1
HAND GUARD 1
HAND GUARD 2
PLC1 INPUT: %I1.01 HOPPER GUARD SWITCH ACTIVATED
PLC1 INPUT: %I1.04 HMI E-STOP BUTTON ACTIVATED
PLC1 INPUT: %I1.00 EMERGENCY STOP CIRCUIT HEALTHY
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
ELECTRICALLY APPROVED BY ALAN THOMAS
DRAWING NUMBER 079E25-00030
PAGE 2 OF 15
REV A



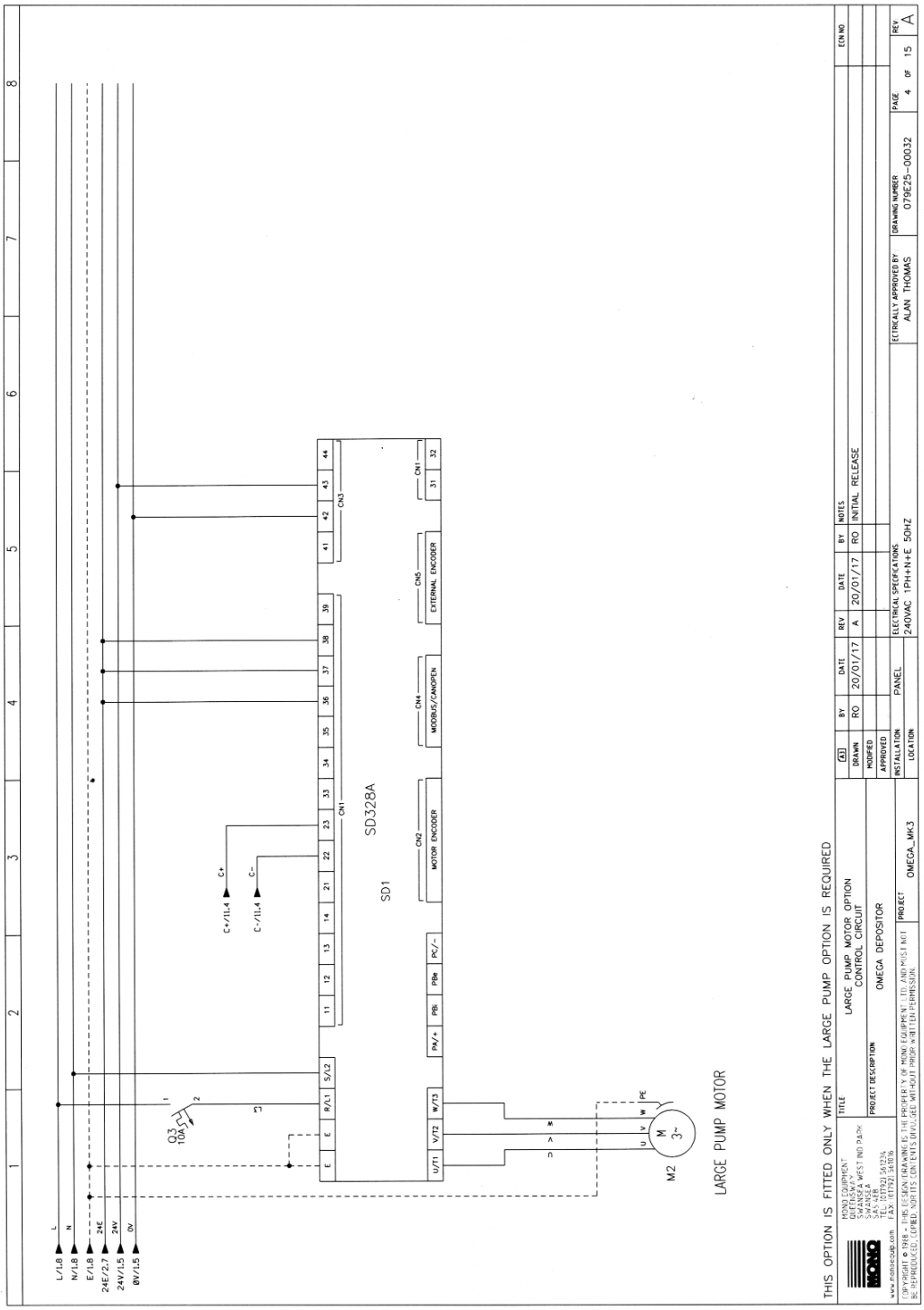
THIS OPTION IS NOT FITTED WHEN THE LARGE PUMP OPTION IS REQUIRED

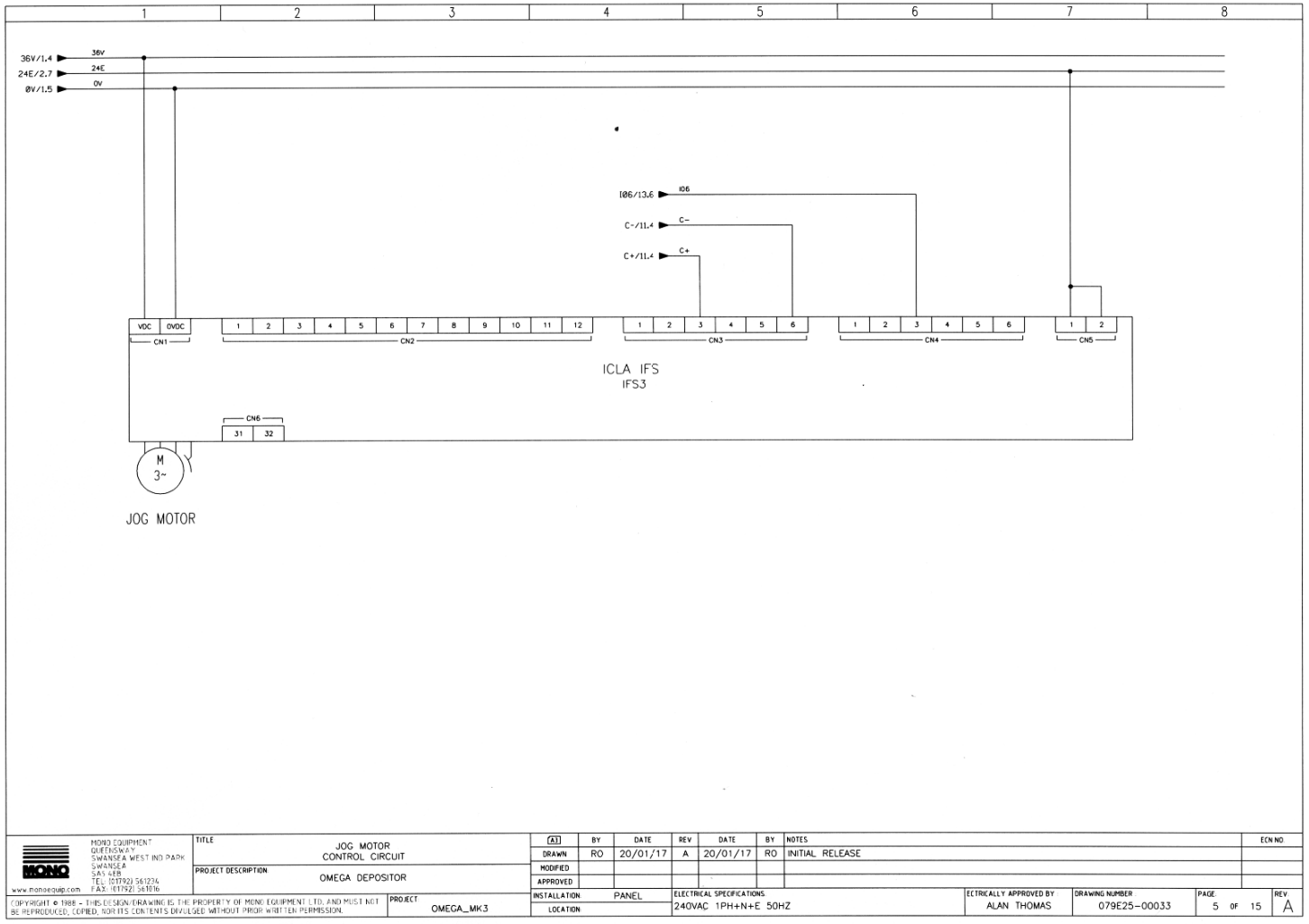
MONO EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA
SA5 4EB
TEL: (01792) 561234
FAX: (01792) 561016
www.monoequip.com

TITLE	STANDARD PUMP MOTOR CONTROL CIRCUIT
PROJECT DESCRIPTION	OMEGA DEPOSITOR
PROJECT	OMEGA_MK3

A3	BY	DATE	REV	DATE	BY	NOTES	ECN NO.
DRAWN	RO	20/01/17	A	20/01/17	RO	INITIAL RELEASE	
MODIFIED							
APPROVED							

INSTALLATION LOCATION	PANEL	ELECTRICAL SPECIFICATIONS	ECTRICALLY APPROVED BY :	DRAWING NUMBER	PAGE	REV.
		240VAC 1PH+N+E 50HZ	ALAN THOMAS	079E25-00031	3 OF 15	A


THIS OPTION IS FITTED ONLY WHEN THE LARGE PUMP OPTION IS REQUIRED
LARGE PUMP MOTOR
SD328A
SD1
M2
LARGE PUMP MOTOR OPTION
CONTROL CIRCUIT
OMEGA DEPOSITOR
OMEGA_MK3
240VAC 1PH+N+E 50HZ
ALAN THOMAS
079E25-00032
INITIAL RELEASE

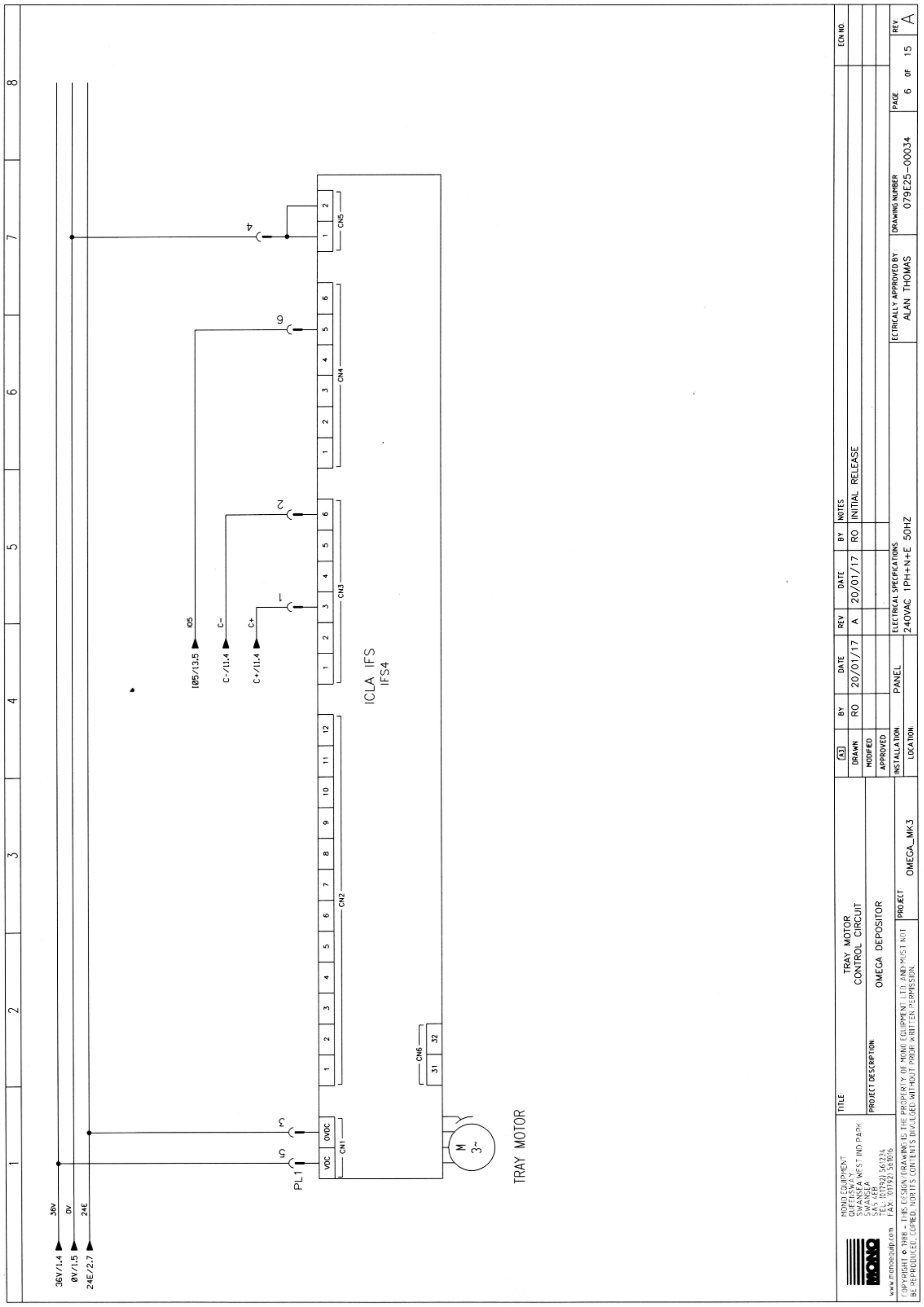


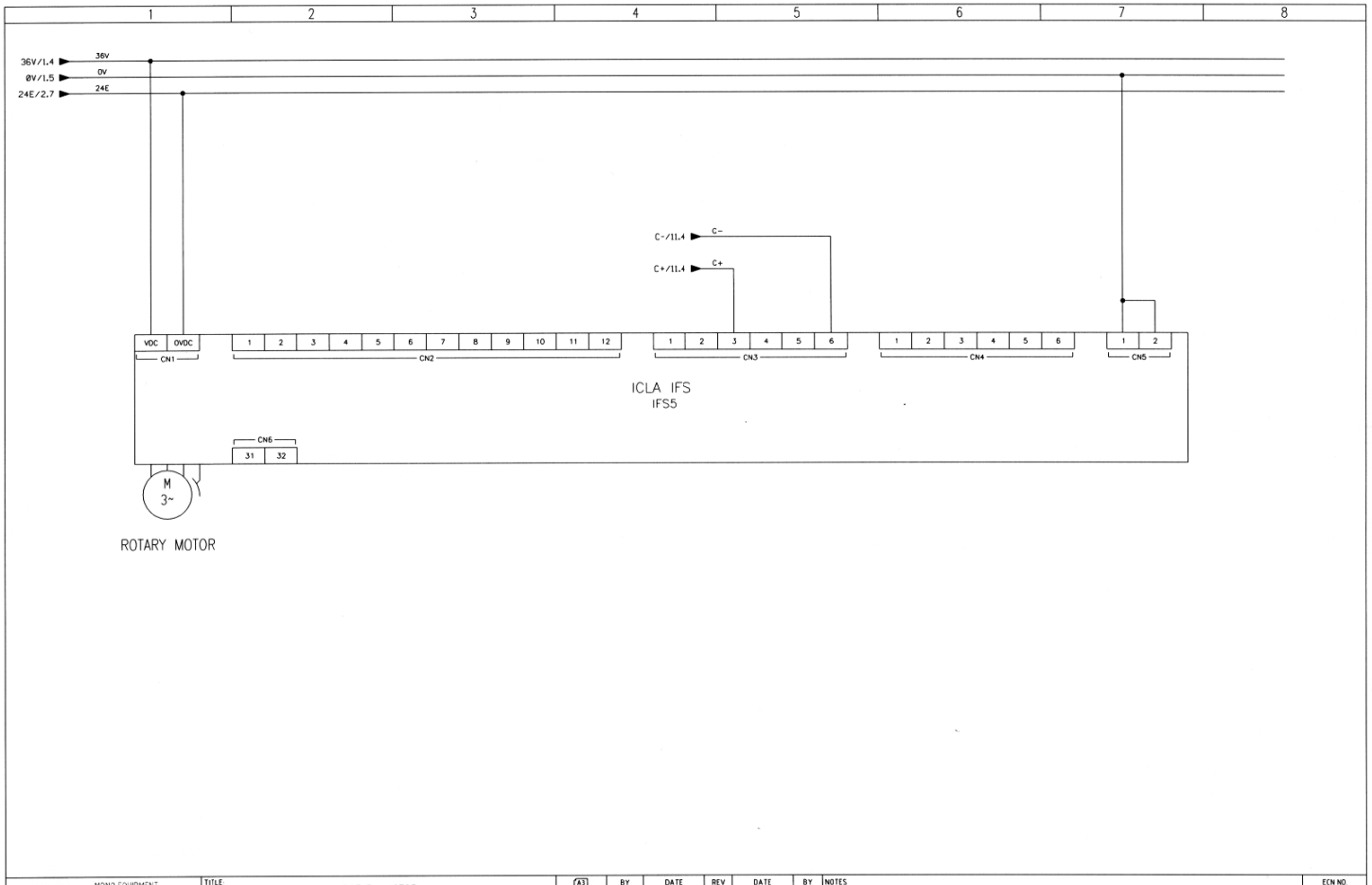
MONO EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA
SA5 4EB
TEL (01792) 561234
FAX (01792) 561616
www.monoequip.com

TITLE: JOG MOTOR CONTROL CIRCUIT
PROJECT DESCRIPTION: OMEGA DEPOSITOR
PROJECT: OMEGA_MK3

A3	BY	DATE	REV	DATE	BY	NOTES	ECN NO.
DRAWN	RO	20/01/17	A	20/01/17	RO	INITIAL RELEASE	
MODIFIED							
APPROVED							

INSTALLATION LOCATION: PANEL
ELECTRICAL SPECIFICATIONS: 240VAC 1PH+N+E 50HZ
ECTRICALLY APPROVED BY: ALAN THOMAS
DRAWING NUMBER: 079E25-00033
PAGE: 5 OF 15
REV: A


TRAY MOTOR
ICLA IFS
IFS4
PL1
VDC
0VDC
CN1
CN2
CN3
CN4
CN5
CN6
36V/1.4
ØV/1.5
24E/2.7
IØ5/13.5
C-/11.4
C+/11.4
TITLE
TRAY MOTOR
CONTROL CIRCUIT
PROJECT DESCRIPTION
OMEGA DEPOSITOR
PROJECT
OMEGA_MK3
DRAWN RO 20/01/17
A 20/01/17 RO INITIAL RELEASE
INSTALLATION PANEL
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
ALAN THOMAS
DRAWING NUMBER
079E25-00034
PAGE 6 OF 15
REV A
MONO EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA
SA5 4EH



MOND EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA
SA5 4EB
TEL: (01792) 561234
FAX: (01792) 561116
www.monoequip.com

TITLE: ROTARY MOTOR CONTROL CIRCUIT

PROJECT DESCRIPTION: OMEGA DEPOSITOR

PROJECT: OMEGA_MK3

A3	BY	DATE	REV	DATE	BY	NOTES	ECN NO.
DRAWN	RO	20/01/17	A	20/01/17	RO	INITIAL RELEASE	
MODIFIED							
APPROVED							

INSTALLATION LOCATION: PANEL

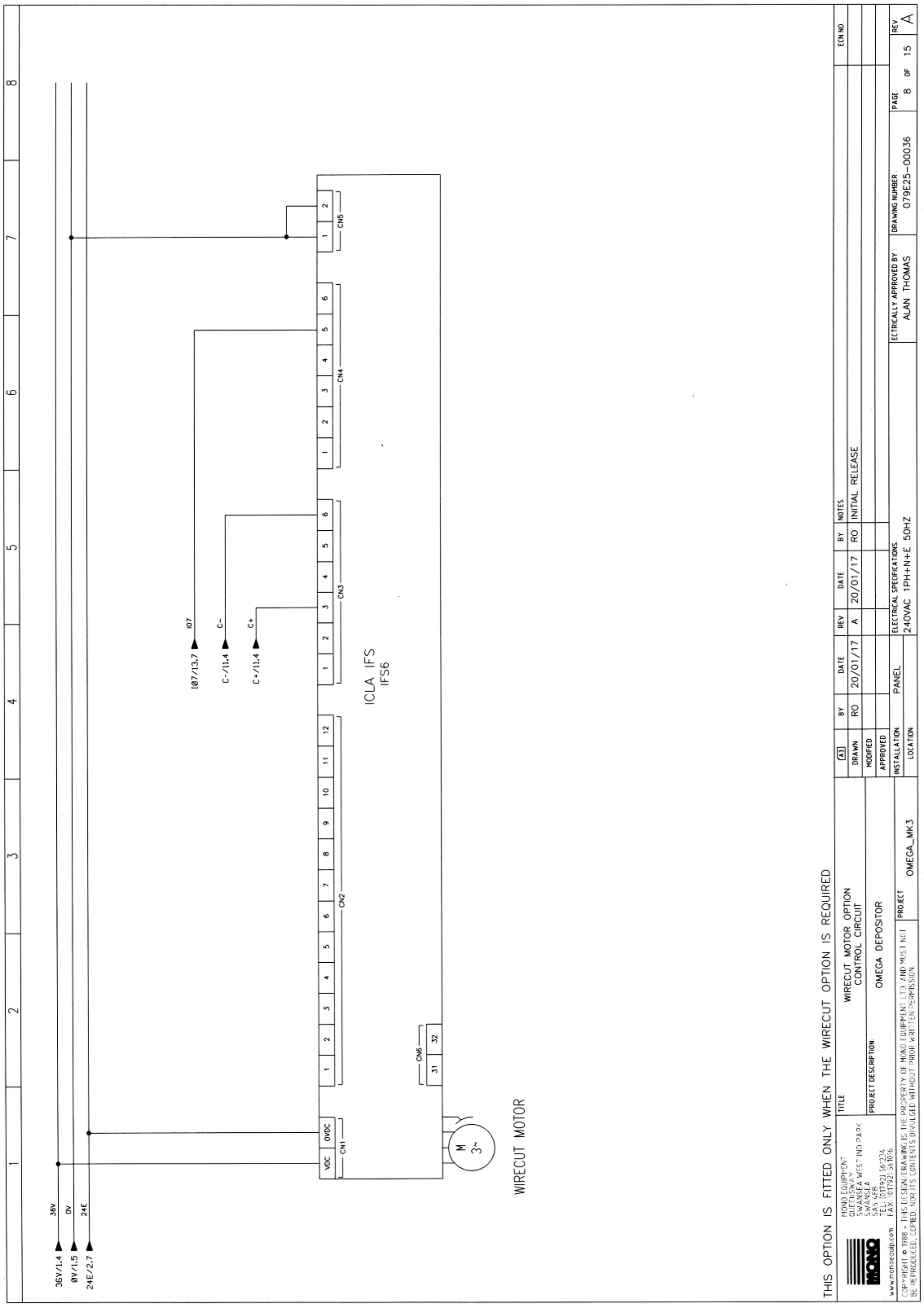
ELECTRICAL SPECIFICATIONS: 240VAC 1PH+N+E 50HZ

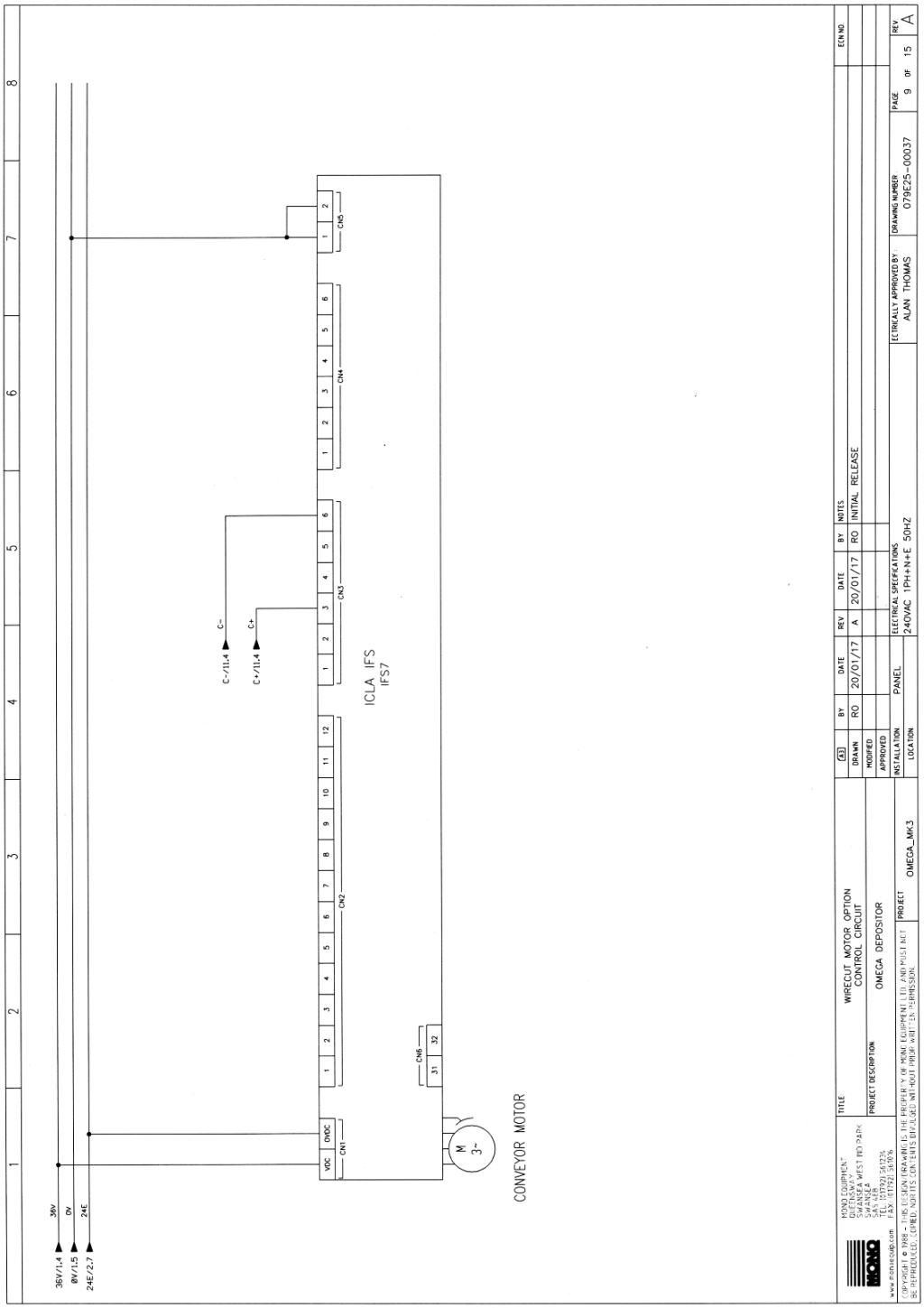
ECTRICALLY APPROVED BY: ALAN THOMAS

DRAWING NUMBER: 079E25-00035

PAGE: 7 OF 15

REV: A


THIS OPTION IS FITTED ONLY WHEN THE WIRECUT OPTION IS REQUIRED
36V/1.4
ØV/1.5
24E/2.7
36V
0V
24E
VDC
0VDC
CN1
CN2
CN3
CN4
CN5
CN6
31
32
ICLA IFS
IFS6
IØ7/13.7
C-/11.4
C+/11.4
IO7
C-
C+
M
3~
WIRECUT MOTOR
MONO EQUIPMENT
QUEENSWAY
SWANSEA WEST IND PARK
SWANSEA
SA5 4EB
TEL: (01792) 561234
FAX: (01792) 561016
www.monoequip.com
TITLE
WIRECUT MOTOR OPTION
CONTROL CIRCUIT
PROJECT DESCRIPTION
OMEGA DEPOSITOR
COPYRIGHT © 1988 - THIS DESIGN/DRAWING IS THE PROPERTY OF MONO EQUIPMENT LTD AND MUST NOT BE REPRODUCED, COPIED, NOR ITS CONTENTS DIVULGED WITHOUT PRIOR WRITTEN PERMISSION
PROJECT
OMEGA_MK3
A3
BY
DATE
DRAWN
RO
20/01/17
MODIFIED
APPROVED
INSTALLATION
PANEL
LOCATION
REV
DATE
BY
NOTES
A
20/01/17
RO
INITIAL RELEASE
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
ELECTRICALLY APPROVED BY
ALAN THOMAS
DRAWING NUMBER
079E25-00036
PAGE
8 OF 15
REV
A
ECN NO


36V/1,4
0V/1,5
24E/2,7
36V
0V
24E
CN1
VDC
0VDC
CN2
CN3
CN4
CN5
CN6
C-/11,4
C+/11,4
C-
C+
ICLA IFS
IFS7
CONVEYOR MOTOR
M
3~
TITLE
WIRECUT MOTOR OPTION
CONTROL CIRCUIT
PROJECT DESCRIPTION
OMEGA DEPOSITOR
PROJECT
OMEGA_MK3
DRAWN
MODIFIED
APPROVED
INSTALLATION
PANEL
LOCATION
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
NOTES
INITIAL RELEASE
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ALAN THOMAS
DRAWING NUMBER
079E25-00037
PAGE
9 OF 15
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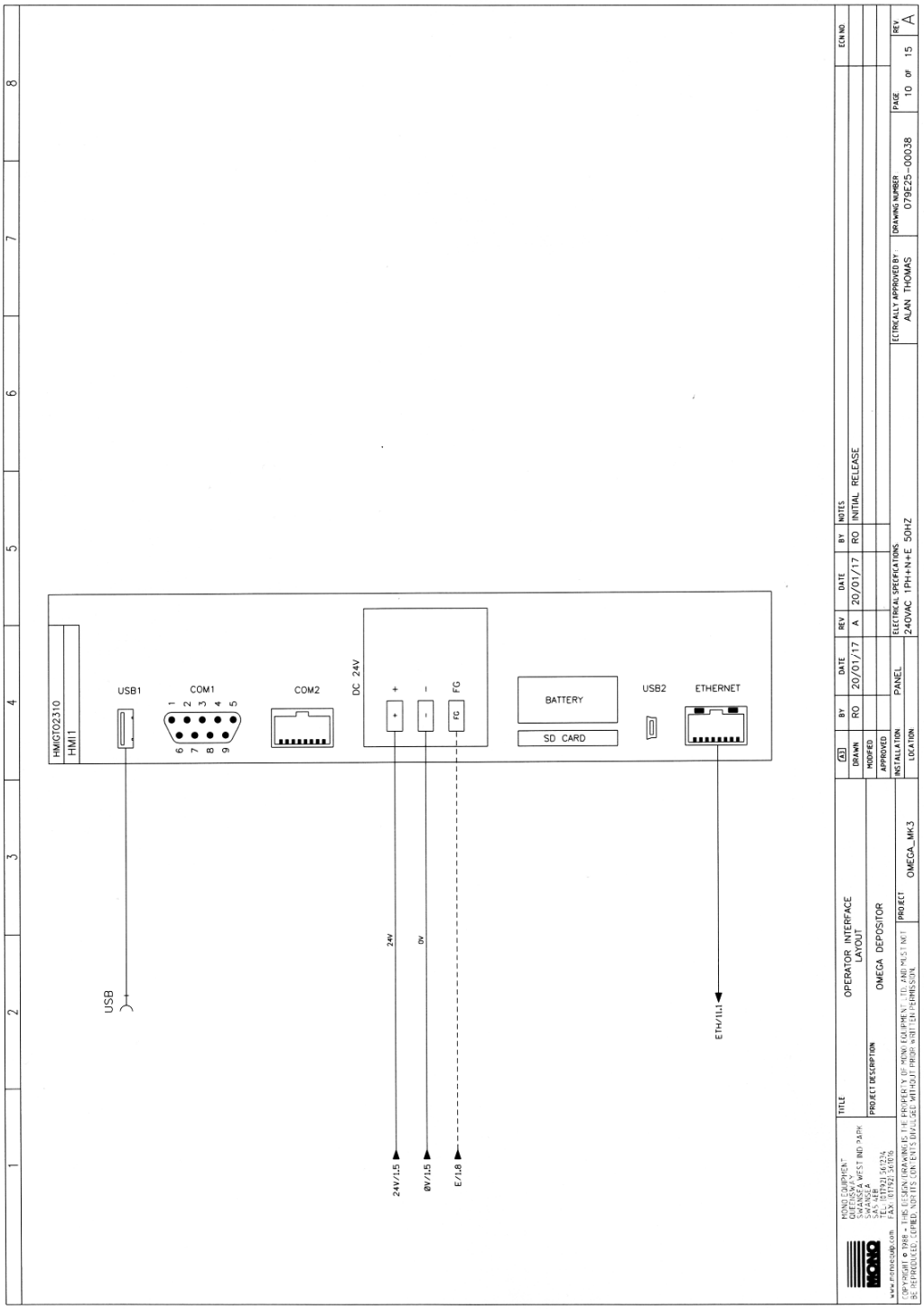
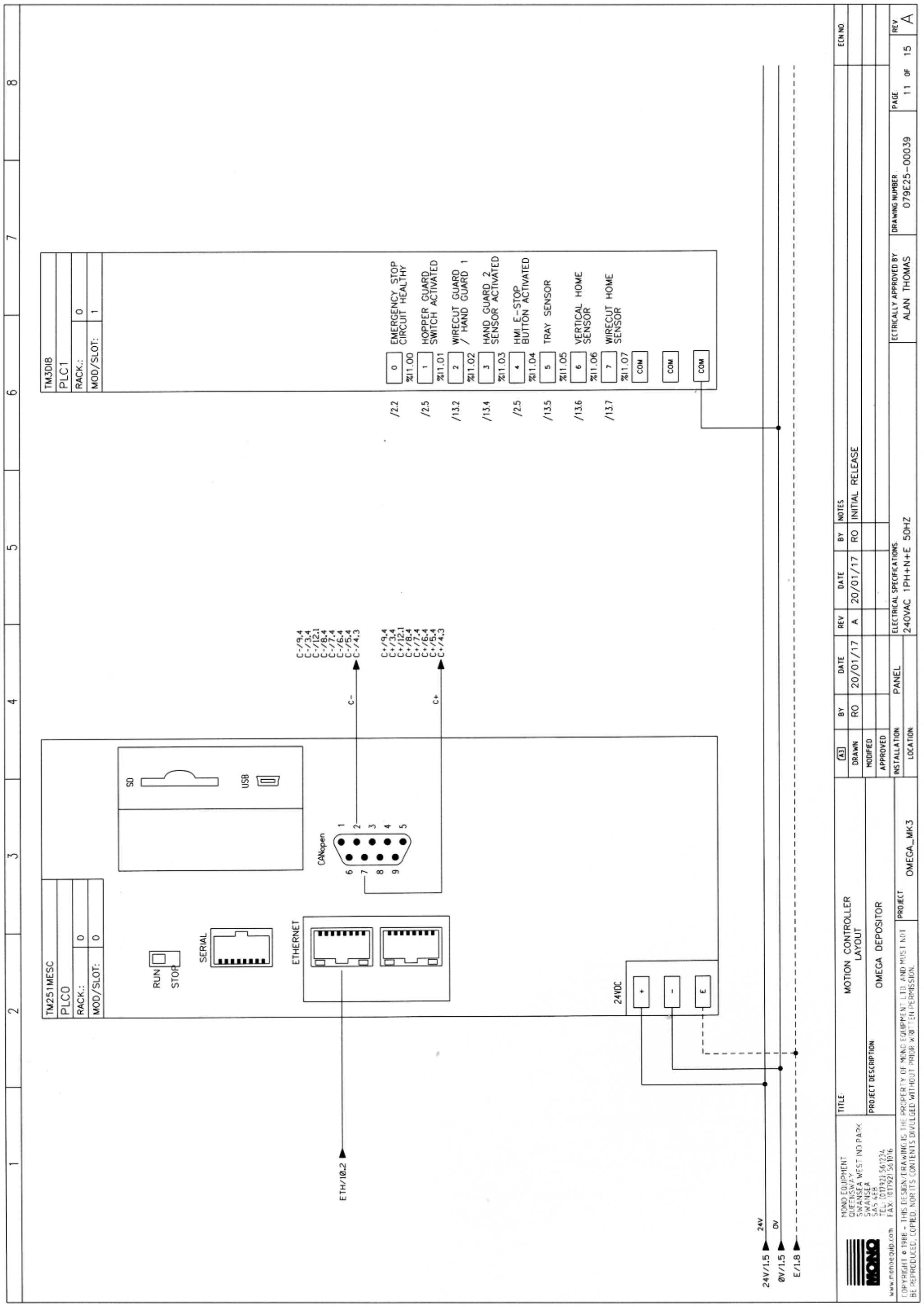
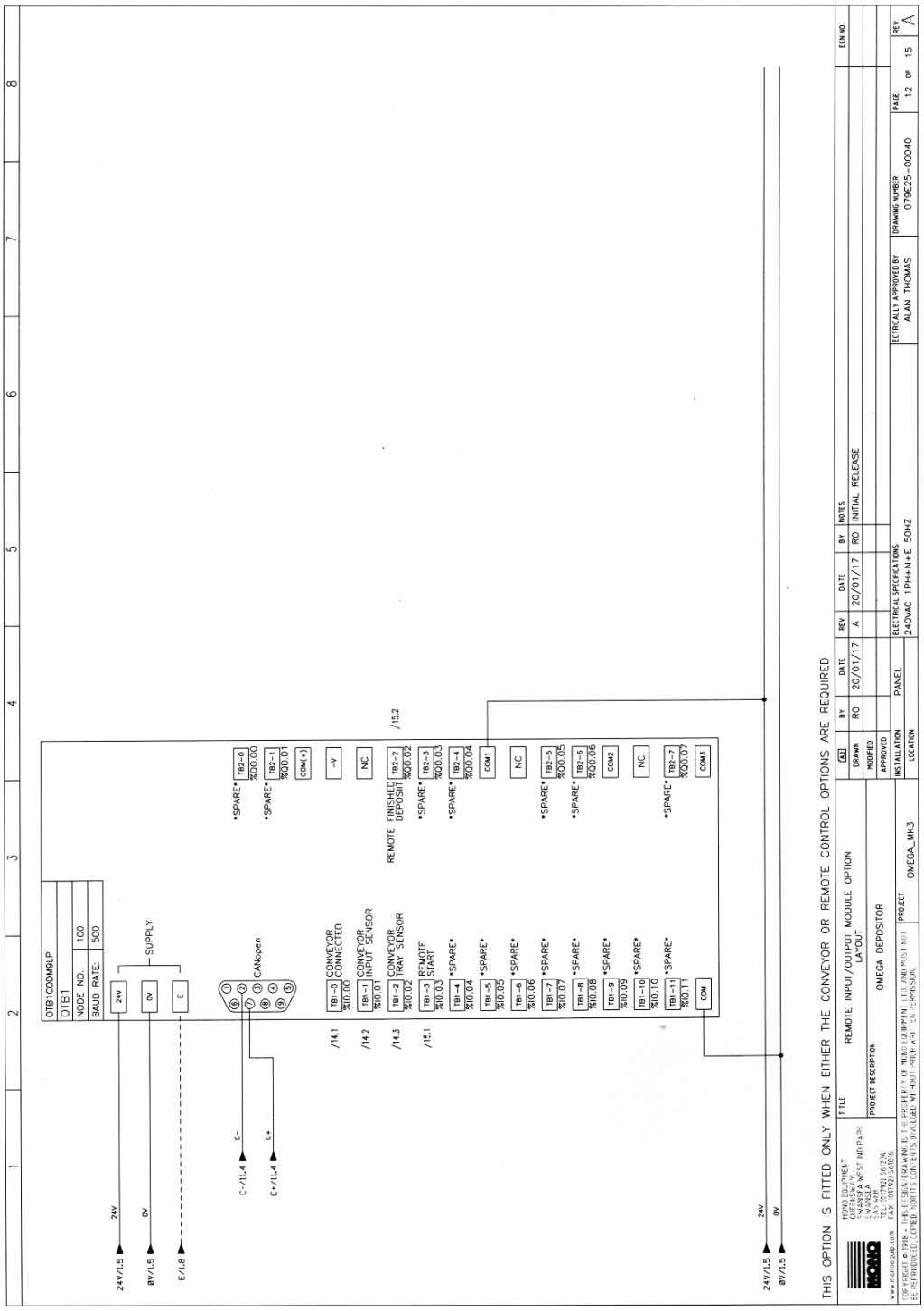
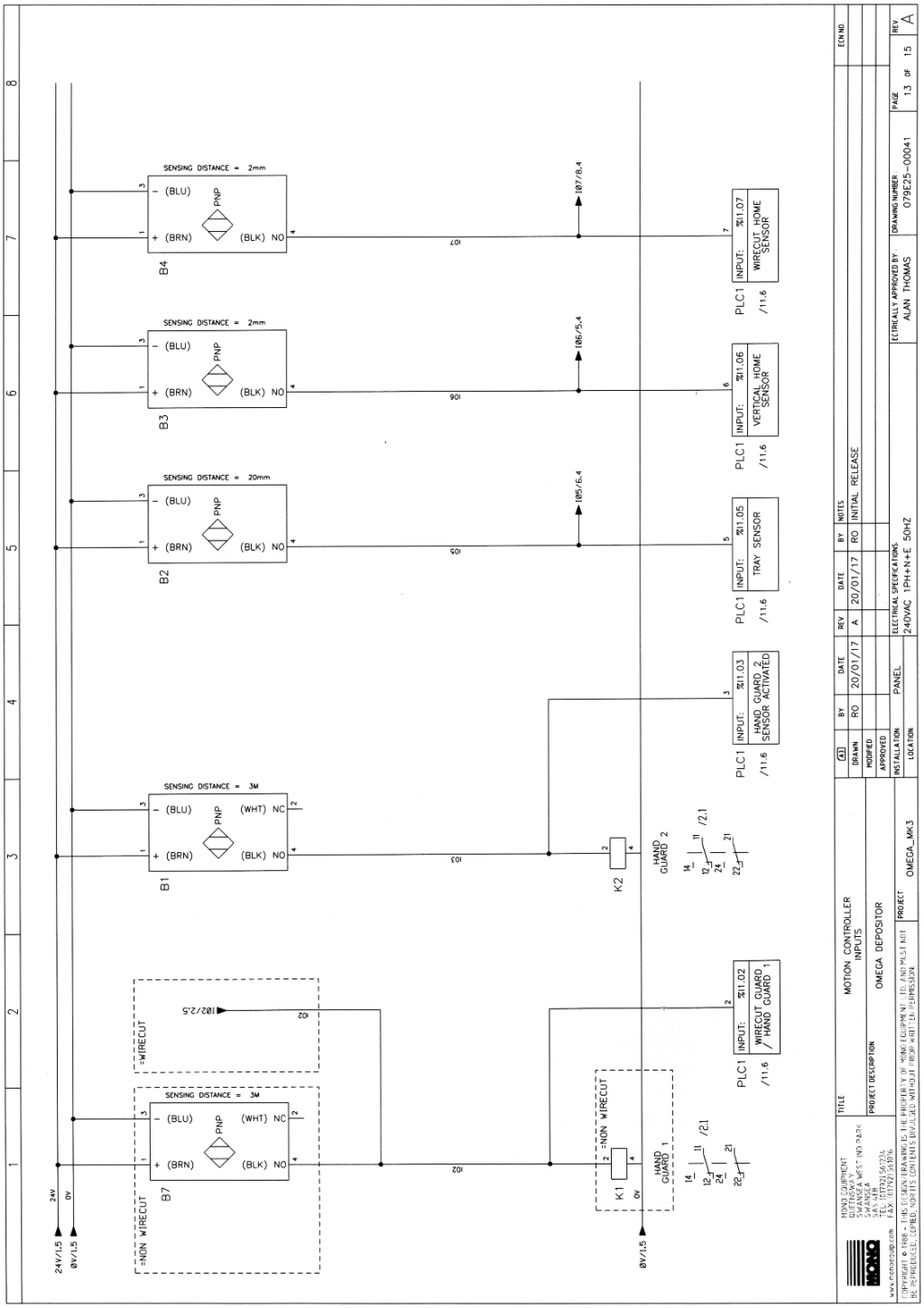
ECN NO

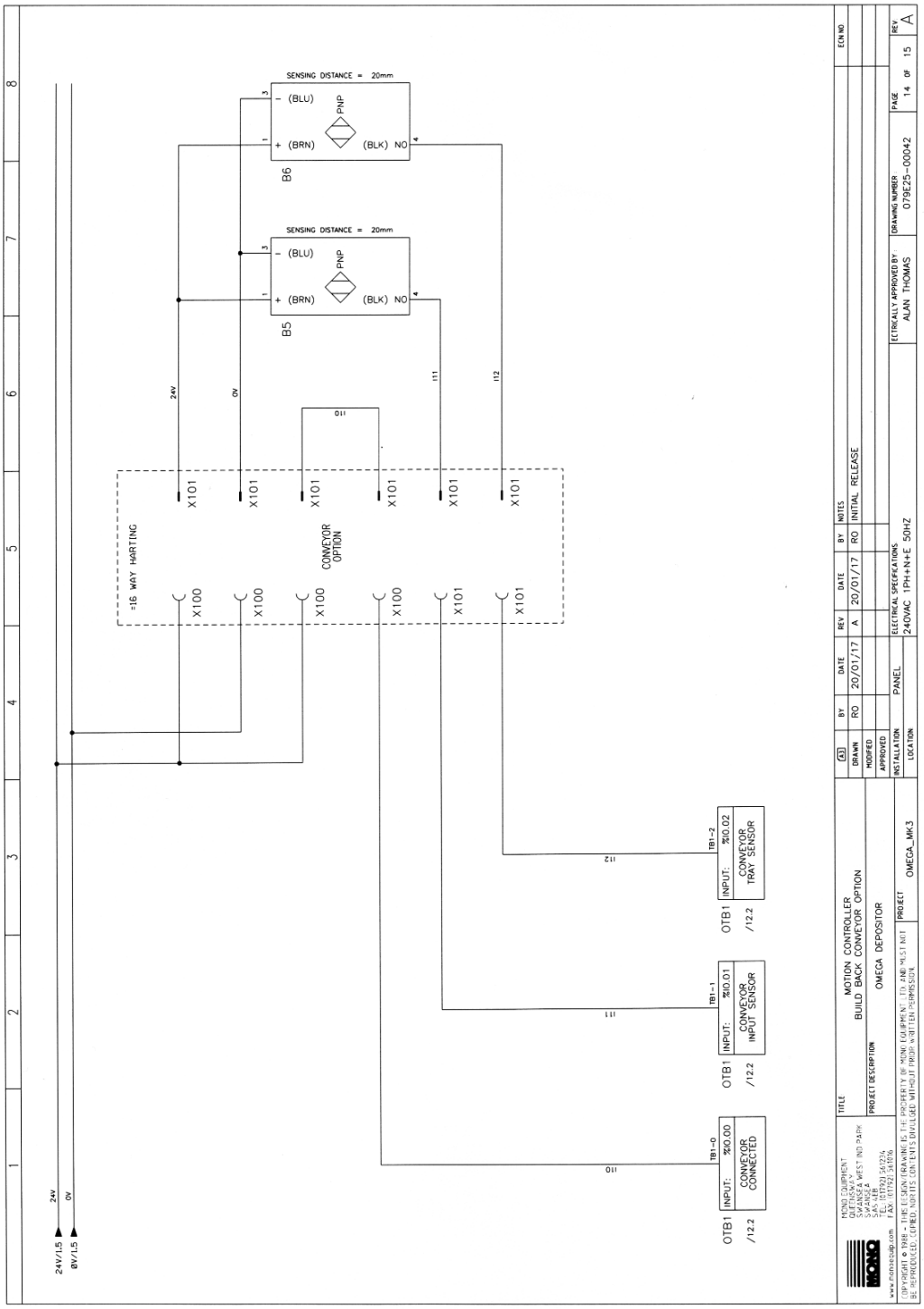

HMIGTO2310
HMI1
USB1
COM1
COM2
DC 24V
+
-
FG
BATTERY
SD CARD
USB2
ETHERNET
USB
24V
0V
ETH/1L1
24V/1.5
0V/1.5
E/1.8
TITLE
OPERATOR INTERFACE LAYOUT
PROJECT DESCRIPTION
OMEGA DEPOSITOR
PROJECT
OMEGA_MK3
DRAWN
MODIFED
APPROVED
INSTALLATION
LOCATION
PANEL
DATE
20/01/17
BY
RO
REV
A
NOTES
INITIAL RELEASE
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
ECN NO
ECTRICALLY APPROVED BY:
ALAN THOMAS
DRAWING NUMBER
079E25-00038
PAGE
10 OF 15
REV
A

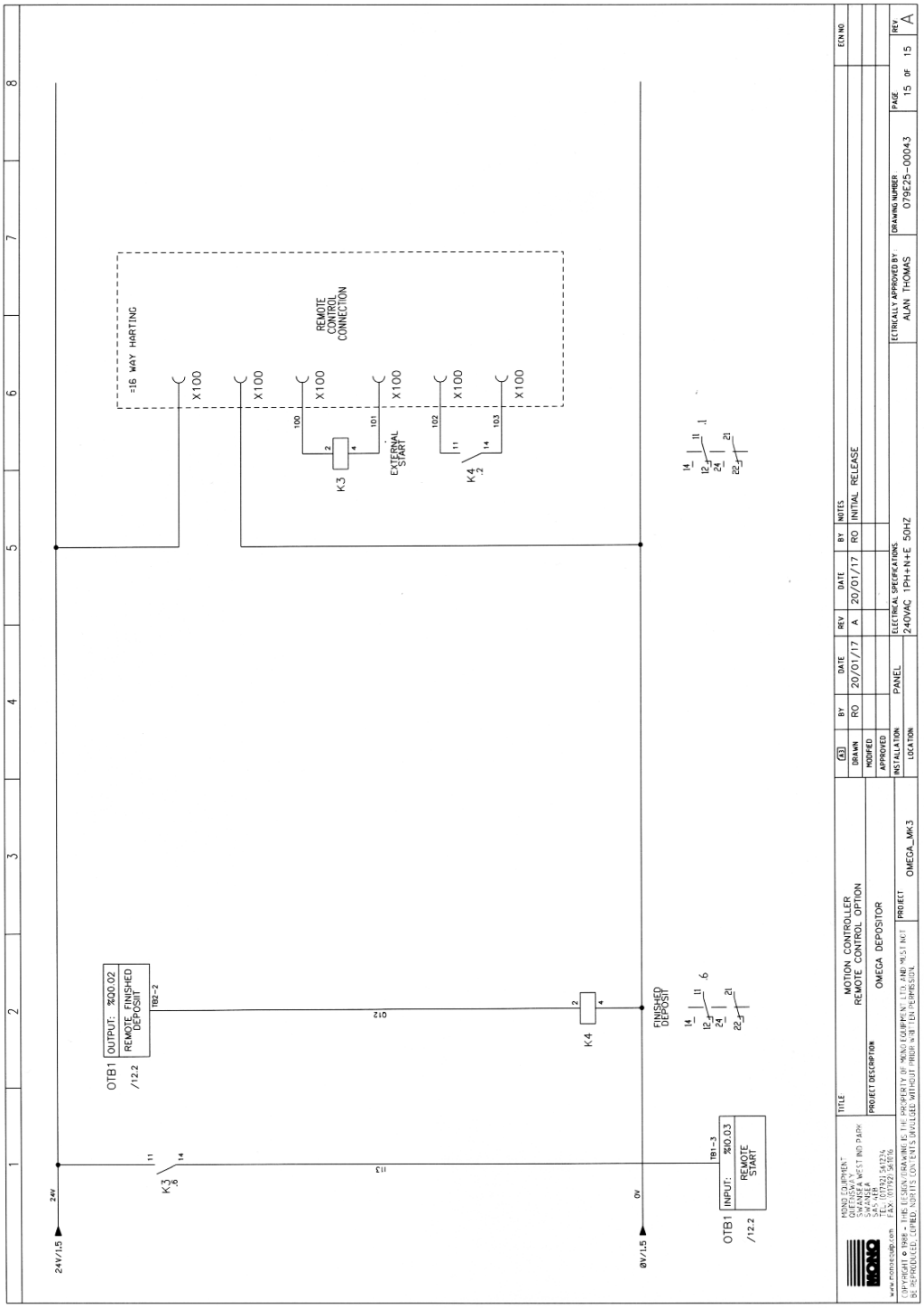


TM251MESC
PLC0
RACK.: 0
MOD/SLOT: 0
RUN
STOP
SERIAL
ETHERNET
SD
USB
CANopen
24VDC
ETH/10.2
C-
C+
TM3DI8
PLC1
RACK.: 0
MOD/SLOT: 1
EMERGENCY STOP CIRCUIT HEALTHY
HOPPER GUARD SWITCH ACTIVATED
WIRECUT GUARD / HAND GUARD 1
HAND GUARD 2 SENSOR ACTIVATED
HMI E-STOP BUTTON ACTIVATED
TRAY SENSOR
VERTICAL HOME SENSOR
WIRECUT HOME SENSOR
COM
24V/1.5
0V/1.5
E/1.8
MONO EQUIPMENT
TITLE: MOTION CONTROLLER LAYOUT
PROJECT DESCRIPTION: OMEGA DEPOSITOR
PROJECT: OMEGA_MK-3
DRAWN RO 20/01/17
REV A 20/01/17 RO INITIAL RELEASE
INSTALLATION: PANEL
ELECTRICAL SPECIFICATIONS: 240VAC 1PH+N+E 50HZ
ELECTRICALLY APPROVED BY: ALAN THOMAS
DRAWING NUMBER: 079E25-00039
PAGE: 11 OF 15
REV: A


OTB1CODM9LP
OTB1
NODE NO.: 100
BAUD RATE: 500
24V
0V
E
SUPPLY
24V/1,5
0V/1,5
E/1,8
C-/11,4
C+/11,4
CANopen
TB1-0 %I0.00 CONVEYOR CONNECTED
TB1-1 %I0.01 CONVEYOR INPUT SENSOR
TB1-2 %I0.02 CONVEYOR TRAY SENSOR
TB1-3 %I0.03 REMOTE START
TB1-4 %I0.04 *SPARE*
TB1-5 %I0.05 *SPARE*
TB1-6 %I0.06 *SPARE*
TB1-7 %I0.07 *SPARE*
TB1-8 %I0.08 *SPARE*
TB1-9 %I0.09 *SPARE*
TB1-10 %I0.10 *SPARE*
TB1-11 %I0.11 *SPARE*
COM
/14.1
/14.2
/14.3
/15.1
REMOTE FINISHED DEPOSIT
/15.2
TB2-0 %Q0.00 *SPARE*
TB2-1 %Q0.01 *SPARE*
COM(+)
-V
NC
TB2-2 %Q0.02
TB2-3 %Q0.03 *SPARE*
TB2-4 %Q0.04 *SPARE*
COM1
NC
TB2-5 %Q0.05 *SPARE*
TB2-6 %Q0.06 *SPARE*
COM2
NC
TB2-7 %Q0.07 *SPARE*
COM3
24V
0V
THIS OPTION S FITTED ONLY WHEN EITHER THE CONVEYOR OR REMOTE CONTROL OPTIONS ARE REQUIRED
MONO EQUIPMENT (UK) LTD
SWANSEA WEST INDUSTRIAL PARK
SWANSEA
SA5 4EB
TEL: (01792) 562734
www.monoequip.com
TITLE
REMOTE INPUT/OUTPUT MODULE OPTION LAYOUT
PROJECT DESCRIPTION
OMEGA DEPOSITOR
PROJECT
OMEGA_MK3
DRAWN BY DATE
RO 20/01/17
MODIFIED
APPROVED
INSTALLATION
PANEL
LOCATION
REV DATE BY NOTES
A 20/01/17 RO INITIAL RELEASE
ELECTRICAL SPECIFICATIONS
240VAC 1PH+N+E 50HZ
ECN NO
ELECTRICALLY APPROVED BY
ALAN THOMAS
DRAWING NUMBER
079E25--00040
PAGE
12 OF 15
REV
A


SENSING DISTANCE = 2mm
SENSING DISTANCE = 2mm
SENSING DISTANCE = 20mm
SENSING DISTANCE = 3M
SENSING DISTANCE = 3M
(BLU)
(BRN)
(BLK) NO
(WHT) NC
PNP
B1
B2
B3
B4
B7
K1
K2
HAND GUARD 1
HAND GUARD 2
=NON WIRECUT
=WIRECUT
24V/1.5
0V/1.5
PLC1 INPUT: %I1.02 WIRECUT GUARD / HAND GUARD 1 /11.6
PLC1 INPUT: %I1.03 HAND GUARD 2 SENSOR ACTIVATED /11.6
PLC1 INPUT: %I1.05 TRAY SENSOR /11.6
PLC1 INPUT: %I1.06 VERTICAL HOME SENSOR /11.6
PLC1 INPUT: %I1.07 WIRECUT HOME SENSOR /11.6
MOTION CONTROLLER INPUTS
OMEGA DEPOSITOR
OMEGA_MK3
PANEL
240VAC 1PH+N+E 50HZ
20/01/17
INITIAL RELEASE
079E25-00041
ALAN THOMAS
PAGE 13 OF 15
REV A


SENSING DISTANCE = 20mm
(BLU)
(BRN)
PNP
(BLK) NO
B6
B5
24V
0V
I10
I11
I12
=16 WAY HARTING
X100
X101
CONVEYOR OPTION
OTB1
INPUT: %I0.00
CONVEYOR CONNECTED
INPUT: %I0.01
CONVEYOR INPUT SENSOR
INPUT: %I0.02
CONVEYOR TRAY SENSOR
TB1-0
TB1-1
TB1-2
/12.2
24V/1.5
0V/1.5
MOTION CONTROLLER
BUILD BACK CONVEYOR OPTION
OMEGA DEPOSITOR
OMEGA_MK3
DRAWN
MODIFIED
APPROVED
INSTALLATION
LOCATION
PANEL
20/01/17
RO
A
INITIAL RELEASE
240VAC 1PH+N+E 50HZ
ALAN THOMAS
079E25-00042
PAGE 14 OF 15
REV A


16 WAY HARTING
X100
REMOTE CONTROL CONNECTION
K3
EXTERNAL START
K4
OUTPUT: %Q0.02
REMOTE FINISHED DEPOSIT
OTB1
/12.2
TB2-2
FINISHED DEPOSIT
INPUT: %I0.03
REMOTE START
TB1-3
24V/1.5
0V/1.5
24V
0V
MOTION CONTROLLER
REMOTE CONTROL OPTION
OMEGA DEPOSITOR
OMEGA_MK3
INITIAL RELEASE
20/01/17
240VAC 1PH+N+E 50HZ
ALAN THOMAS
079E23-00043

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 PESONS 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.

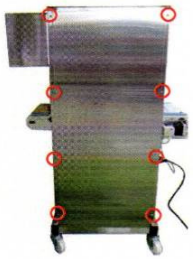
YOU MUST ISOLATE THE POWER SUPPLY BEFORE PROCEEDING.

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

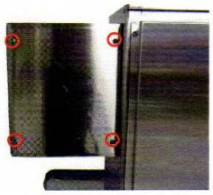
Follow the steps below to update the remove the TLCC motion controller and associated wiring :-

1



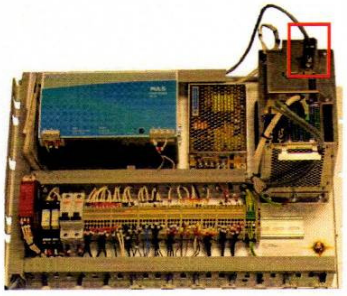
Remove the 8 screws securing the main enclosure cover to gain access to the electrical control panel.

2



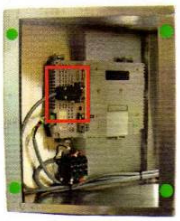
Remove the 4 screws securing the HMI enclosure cover to gain access to the rear of the HMI.

3



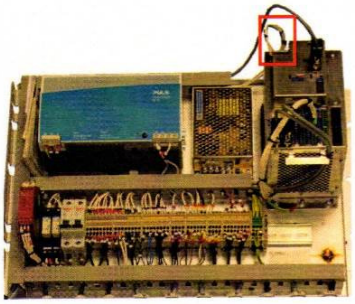
Remove the 'D' connector from the TLCC using a small screwdriver.

4



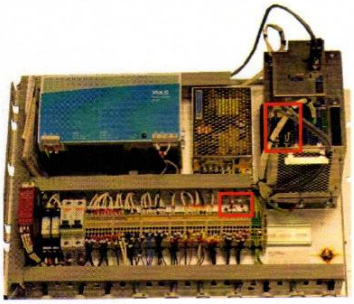
Remove the 'D' connector from the HMI using a small screwdriver.

5



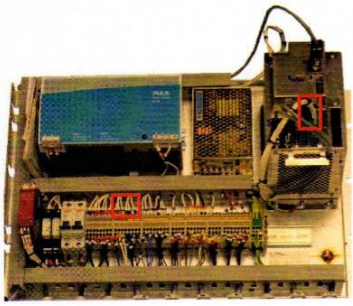
Remove wires to the power supply of the TLCC using a small screwdriver.

6



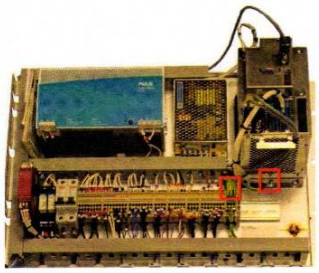
Remove the 2x 'D' connectors from the TLCC using a small screwdriver. Remove the trunking lids. Trace the wires back to the terminals (C1+ / C1- / C2+ / C2-) and remove using a small screwdriver.

7



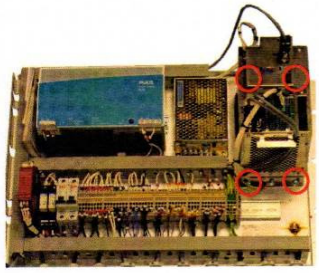
Remove the I/O connector from the TLCC (pull to remove). Trace the wires back to the terminals (I02 to I08) and remove using a small screwdriver. Trace the wire back to the emergency stop relay (I01) and remove with a small screwdriver.

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

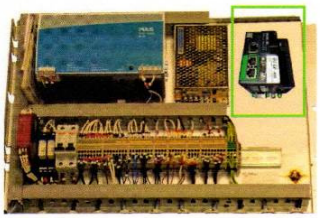


Remove 4x screws using a posidrive screwdriver and remove TLCC motion controller.

INSTALL M251 MOTION CONTROLLER AND WIRING B

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

1

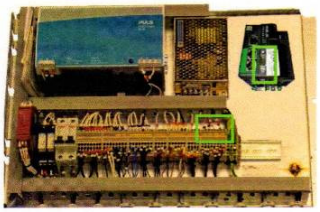


Fix the M251 to the control panel using the fixing kit supplied.

2

Take the CANOpen comms cable from the conversion kit.

3

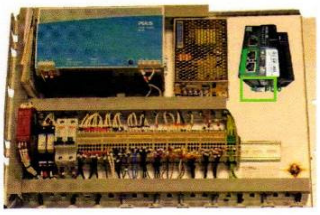


Connect the CAN cable to the port at the top of the M251. Connect the wires at the other end of this cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed)

4

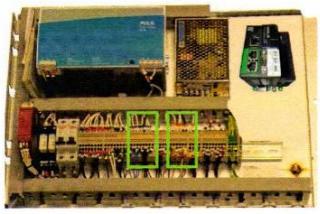
Take the IO and power loom from the conversion kit.

5



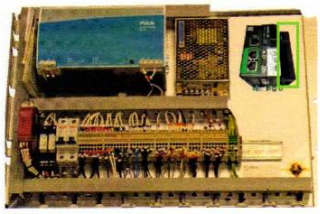
Connect the power supply plug to the M251 (connector at bottom).

6



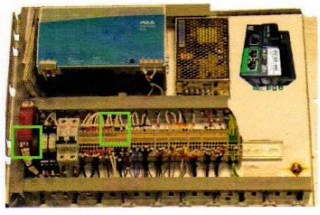
Connect the wires at the other end of the power cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed).

7



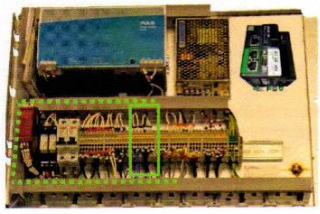
Connect the IO cable plug to the M251 expansion module at the right.

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



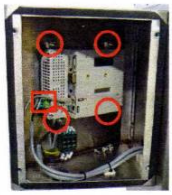
Connect the wire marked 0V to the terminals with the corresponding wire numbers. You will have to find a spare/unused terminal on the terminal rails, this may mean routing the cable to the bottom of the terminals.

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.

11



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.

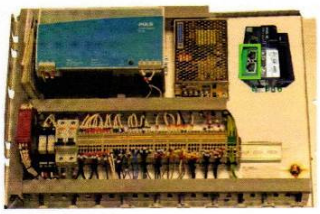
12

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.

13

Take the HMI cable from the conversion kit.

14



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

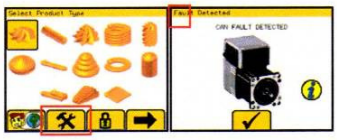
15

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 :-

1

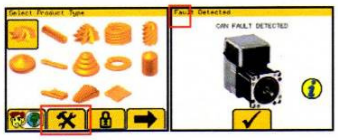


From the Select Product *OR* Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01792561234**

2

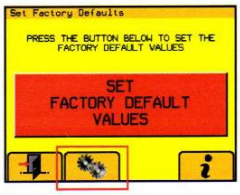
Select the options installed on your machine. Press the exit button.

3



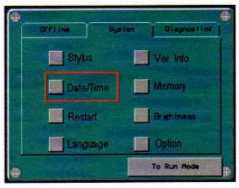
From the Select Product *OR* Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01554777460**

4



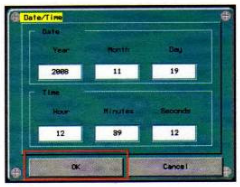
Press the **SET FACTORY DEFAULTS BUTTON**. Then press The **COGS** Button to enter the System Menu.

5



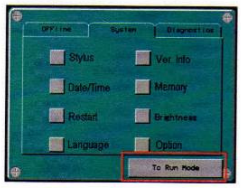
Select the **DATE/TIME** option to enter the date and time setting page.

6



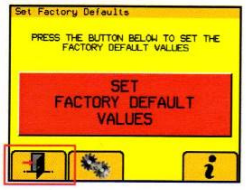
Set the Date and Time to the correct settings and press **OK**.

7



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

8



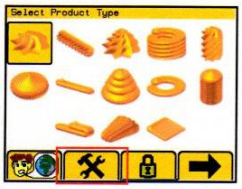
Press the **EXIT** button to return to the main menu.

CYCLE POWER TO THE MACHINE BEFORE CONTINUING

CHECK I/O FUNCTIONALITY D

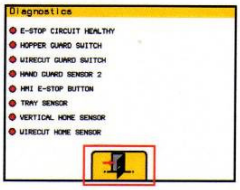
Follow the steps below to verify that the wiring has been completed correctly and that the I/O to the M251 is correct :-

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.

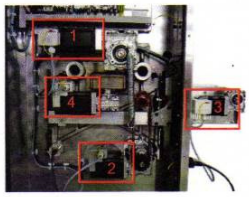
SET MOTOR PARAMETERS (WHERE REQUIRED) E

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



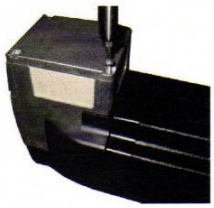
Identify the motors present in the rear of the machine.

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

2

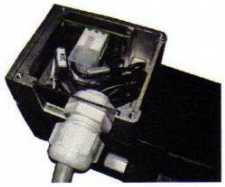
To access the tray motor remove the cover plate. There are 2 screws on the top and 2 screws on the bottom

3



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

4

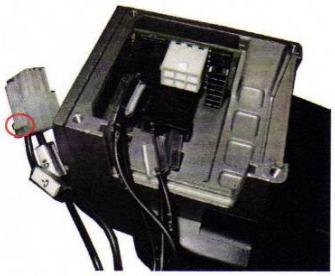


Remove the motor control box lid.

5

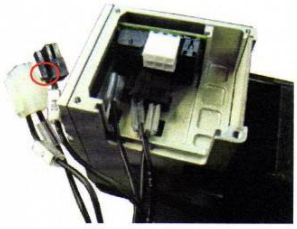
Slide the cable gland plate from the motor housing to gain access to the connectors.

6



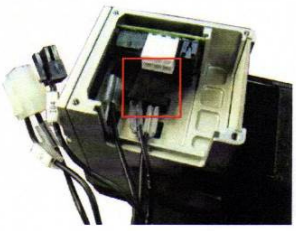
Carefully remove the CAN connector, press the locking pin to release and pull to remove.

7



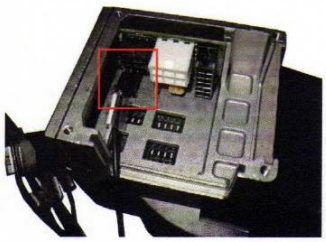
Carefully remove the I/O connector, press the locking pin to release and pull to remove.

8



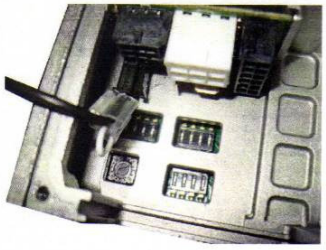
Carefully remove the POWER connector, pull to remove (long nosed pliers can be used).

9



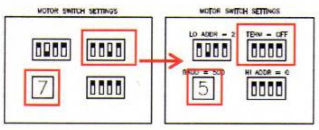
Do **NOT** remove the STOP connector, this cable can be moved out of the way to gain access to the switches.

10



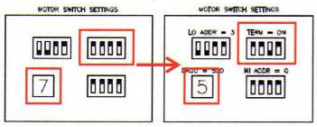
Using a small screwdriver adjust the settings of the switches and rotary dial as per the motor configurations below.

11



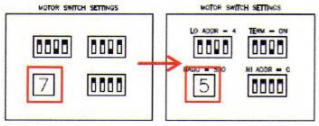
Pump Motor (Standard)
Set the rotary dial to 5 and the DIP switches to the settings shown.

12



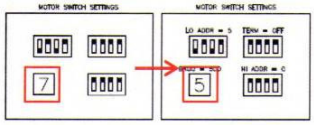
Jog Motor
Set the rotary dial to 5 and the DIP switches to the settings shown.

13



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

14

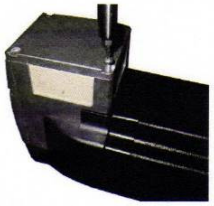


Rotary Motor
Set the rotary dial to 5 (as shown)

15

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

16



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

LMC20 to M251 Conversion Procedure

ONLY COMPETENT PESONS 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.

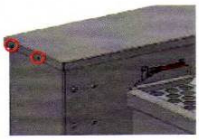
REMOVE LMC20 MOTION CONTROLLER AND WIRING — A

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

1

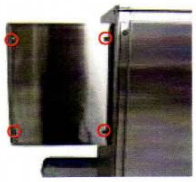
Remove the 8 screws securing the main enclosure cover to gain access to the electrical control panel.

2



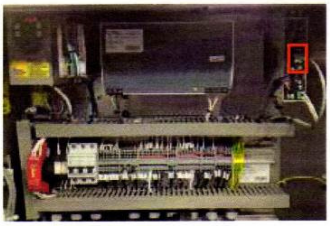
Remove the 4 screws securing the main enclosure lid (2 on each side) using 1 4mm allen key and 10mm spanner/socket to gain access to the electrical control panel. To remove the lit lift the lid at the front and slide to the rear then lift to remove.

3



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

4



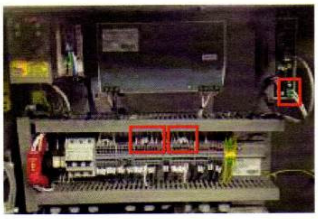
Remove the Modbus cable from the Modbus connector on the LMC20 by pressing the small tab on the connector and pulling.

5

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

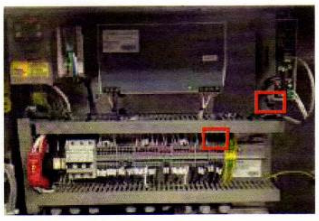
This cable will no longer be used and can be completely removed.

6



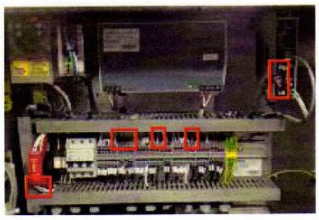
Remove the wires to the power supply of the LMC20 by pulling the green connector. Remove the trunking lids. Trace the wires back to the terminals (0V / 24V) and remove using a small screwdriver.

7



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.

8

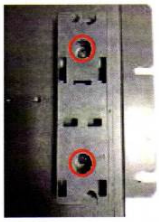


Remove the I/O connector from the LMC20 by releasing the retaining clips (top and bottom) and pulling the cable Trace the wires back to the terminals (I01 to I07, 0V, 24V) and remove using a small screwdriver. Trace the wire back to the emergency stop relay (I00) and remove with a small screwdriver.

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

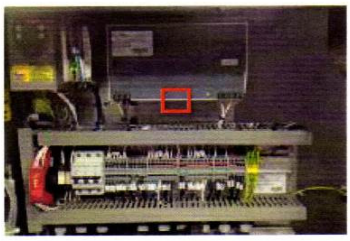


Remove 2x screws using a posidrive screwdriver and remove LMC20 mounting bracket.

INSTALL M251 MOTION CONTROLLER AND WIRING B

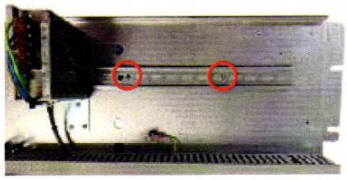
Follow the steps below to install the M251 motion controller and associated wiring :-

1



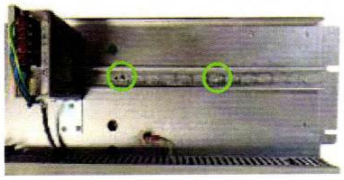
Release the 36 Volt power supply from the DIN rail by using a large flat head screwdriver to pull down on the retaining clip. Lift the power supply off the DIN rail.

2



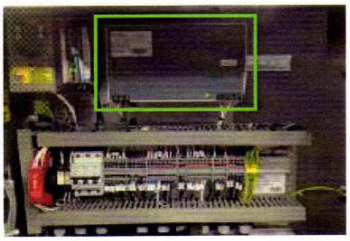
Remove the 2x DIN rail screws using a posidrive screwdriver and remove the DIN rail.

3



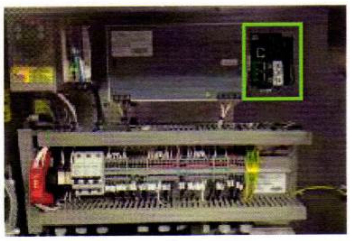
Fix the extended DIN rail in place using the 2x screws.

4



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

5

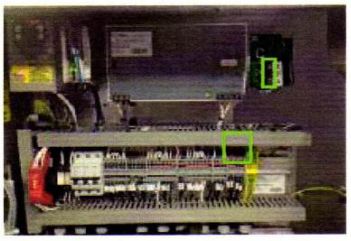


Fix the M251 to the DIN rail – ensure that the 3x retaining clips are in the out position before offering up to the DIN rail, then use a screwdriver to push the 3x retaining clips in – ensure it is mounted securely.

6

Take the CANOpen comms cable from the conversion kit.

7

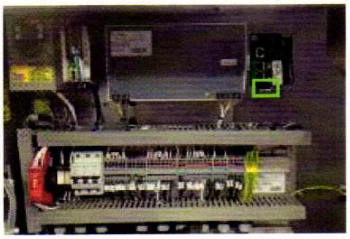


Connect the CAN cable to the port at the top of the M251. Connect the wires at the other end of this cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed)

8

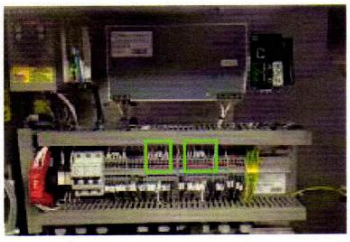
Take the IO and power loom from the conversion kit.

9



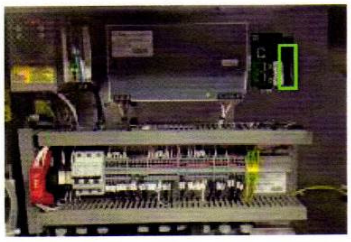
Connect the power supply plug to the M251 (connector at bottom). Note the retaining shroud hinges up to enable the connector to be inserted, insert then hinge the shroud down to fully engage.

10



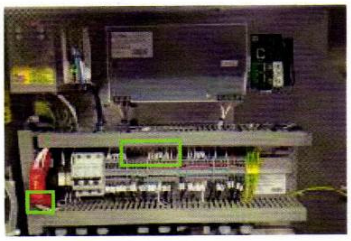
Connect the wires at the other end of the power cable to the terminals with the corresponding wire numbers (to the same location as the ones previously removed).

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.

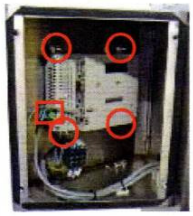
12



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

13



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.

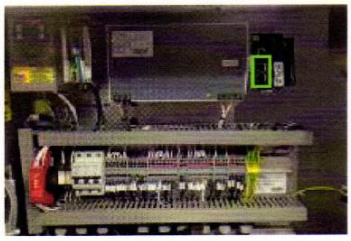
14

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.

15

Take the HMI cable from the conversion kit.

16



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

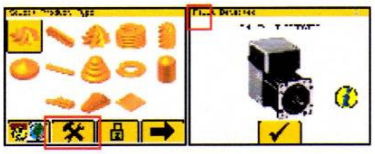
17

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

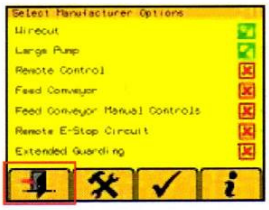
Restore power to the machine. Follow the steps below to configure the machine to recognise the connected hardware and to set factory defaults :-

1



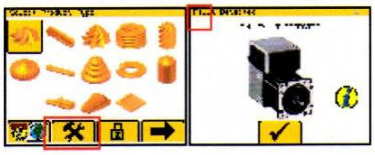
From the Select Product *OR* Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01792561234**

2



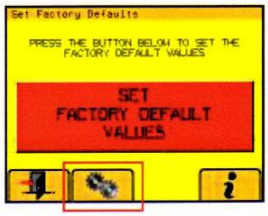
Select the options installed on your machine. Press the exit button.

3



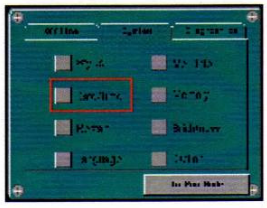
From the Select Product *OR* Fault page activate the tools password entry (Hidden button at top left of fault page) and type in **01554777460**

4



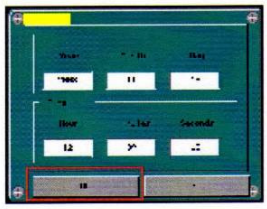
Press the **SET FACTORY DEFAULTS BUTTON**. Then press The **COGS** Button to enter the System Menu.

5



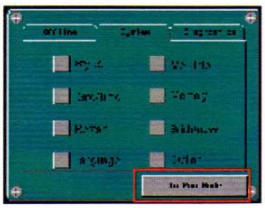
Select the **DATE/TIME** option to enter the date and time setting page.

6



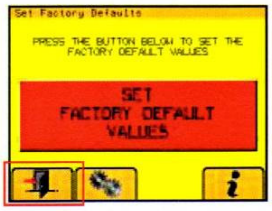
Set the Date and Time to the correct settings and press **OK**.

7



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

8



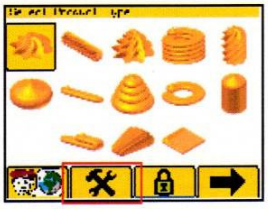
Press the **EXIT** button to return to the main menu.

CYCLE POWER TO THE MACHINE BEFORE CONTINUING

CHECK I/O FUNCTIONALITY D

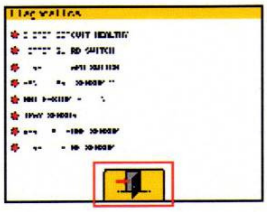
Follow the steps below to verify that the wiring has been completed correctly and that the I/O to the M251 is correct :-

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

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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.