

Enter <b>Serial No</b>	. here.
------------------------	---------

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







## **OPERATING AND MAINTENANCE MANUAL**

NOTE: THIS MACHINE IS FOR USE WITH SOFT DOUGH ONLY

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



## **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 2006 / 95 / EC
- The requirements of the Electromagnetic Compatibility Directive 2004 / 108EC, 91 / 263 / EEC, 92 / 31 / EEC
- 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	CHEN Whows.
	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 35, 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.



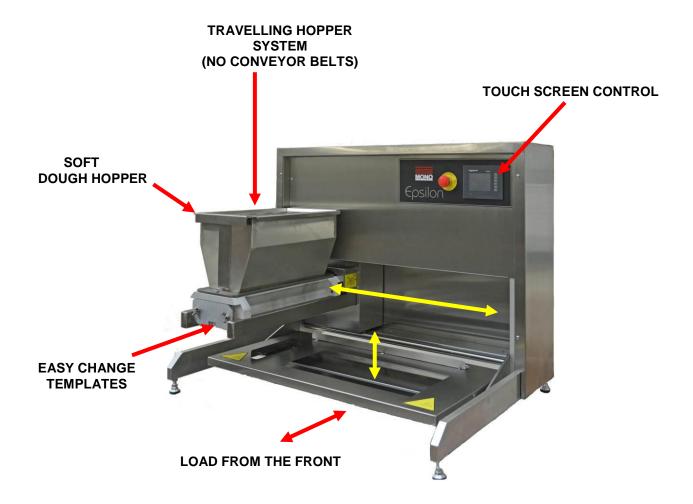
The use of templates and/or accessories not produced or supplied by MONO Equipment will invalidate the machine's warranty

FOR SAFE WORKING, PAY SPECIAL ATTENTION TO ITEMS MARKED

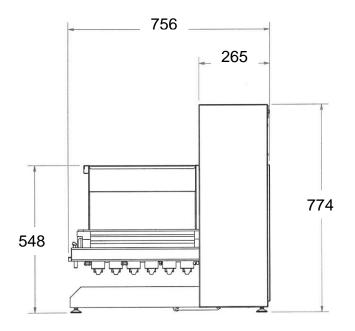


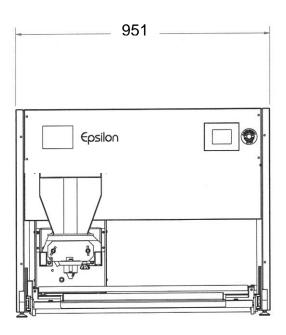
1.0	-	INTRODUCTION
2.0	-	DIMENSIONS
3.0	-	SPECIFICATIONS
4.0	-	SAFETY $\triangle$
5.0	-	INSTALLATION
6.0	-	ISOLATION
7.0	-	CLEANING INSTRUCTIONS
8.0	-	OPERATING CONDITIONS
9.0	-	PREPARING FOR OPERATION
		9A – FITTING THE HOPPER
		9B – FITTING A TEMPLATE
10.0	-	OPERATING INSTRUCTIONS
1	- SEL	ECT PRODUCT TYPE
2		ECT SAVED PRODUCT TYPE HOOSE EMPTY SLOT TO CREATE A NEW PROGRAM
3	- OPE	RATOR SCREEN
4	- EDIT	Γ & SAVE SCREEN
<b>4</b> A	- TRAY	SETUP
5	- COF	Υ
6	– DEL	ETE
7	- PAS	SWORDS
8	- ENG	SINEERING SETTINGS
9	– FAU	ILT INFORMATION SCREENS
11.0	-	MAINTENANCE
12.0	-	SPARES AND SERVICE
13.0	-	SPARES LIST
14.0	-	ELECTRICAL INFORMATION

- The ground breaking **EPSILON** tabletop confectionary depositor requires less than 1 square metre of space to operate.
- The unique travelling hopper system removes the need for a conveyor belt which means trays
  can be loaded and unloaded in the most ergonomically efficient way directly from the front.
- The **EPSILON** can be transported through a normal doorway and plugged into a standard 13amp socket.
- Control is by a user friendly tri-colour touch screen (in 14 languages) and can be used to store up to 96 programs.
- Robust stainless steel construction for durability and ease of cleaning.
- A matching stainless steel table is also available to make the **EPSILON** freestanding.



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







|--|

MODEL 400 450

Weight (with hopper fitted) (Kg): tba tba

Standard hopper 20 22.5

Capacity (litre):

(Nom. hopper width (mm))

**Power:** Single phase, 13A max load. Suitable for 110v,200v,

220v, 230v, and 240v, 50-60 Hz supply.

MAX RATING 2.5kW single phase fused at 13A

Cycles per minute = Depends on product.

i.e. 5 across 30g drop = 16 per minute.

Max program storage = 96 Number of languages = 14

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 your intended product falls outside the above general machine specification.

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

- 1 Never use a machine in a faulty condition and always report any damage.
- 2 Only trained engineers may remove parts from this machine if a tool is required.
- 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 **ξρsilon** 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.
- 8 No loose clothing or jewellery should be worn while operating the machine.
- **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 the hopper template fitted correctly.
- 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.

#### **CAUTION:**

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

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

- 1 Ensure that the depositor is connected to the 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 The support table should be level and strong enough to support the machine and loaded hopper.
- **4** This machine should be lifted by more than one person.

## 6.0 ISOLATION

## 

To release the emergency stop button, turn clockwise.



### 7.0 CLEANING INSTRUCTIONS

**€PSILON** 

#### 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.

#### **DOUGH HOPPERS**

#### **BETWEEN PRODUCT MIX CHANGES**

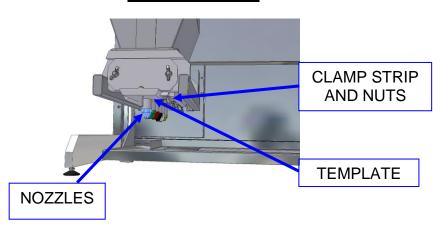
The feed hopper, pump assembly, template, nozzles etc. should be removed from the machine and dismantled for thorough cleaning between product mix changes.

- 1. Open top safety guard (lift front and unhook the back edge) and remove excess mixture remaining in the feed hopper.
- 2. <u>Slacken</u> template clamp strip nuts and remove fitted template from pump assembly by sliding out while supporting it to avoid damage.

#### NOTE.

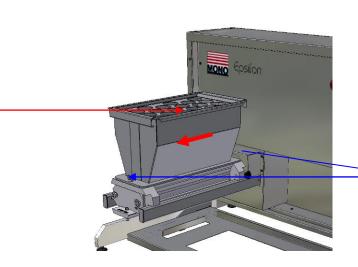
Thumbscrews only need to be released slightly to allow the template to slide away from the pump assembly. If loosened too much, the template will have to be supported.

#### **DOUGH HOPPER**



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

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.



HOPPER WINGNUTS

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

### **DOUGH HOPPER**

NOTE: THIS MACHINE IS FOR USE WITH SOFT DOUGH ONLY

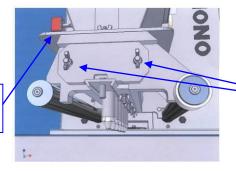
CAUTION:

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

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

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

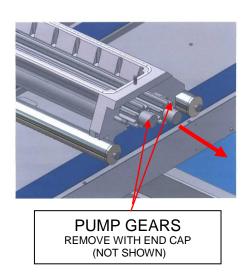
FEED HOPPER SEALING SURFACE

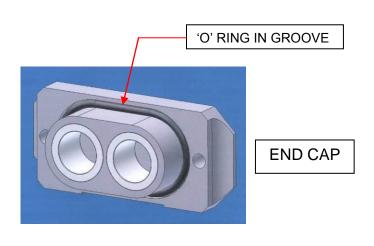


**ENDCAP NUTS** 

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

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





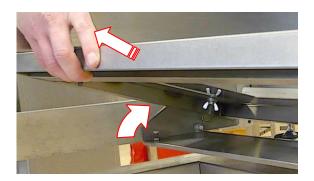
4. To fully dismantle pump assembly components for cleaning, remove remainder of pump assembly from the machine and remove remaining end-cap.

PICTORIAL VIEWS SHOWN COULD BE DIFFERENT TO THE MACHINE BEING WORKED ON BUT THE INSTRUCTIONS ARE THE SAME FOR ALL MODELS.

#### To remove the table for cleaning:

- 1. Push the table down to its lowest level.
- 2. Lift the front edge and lift the table towards you.

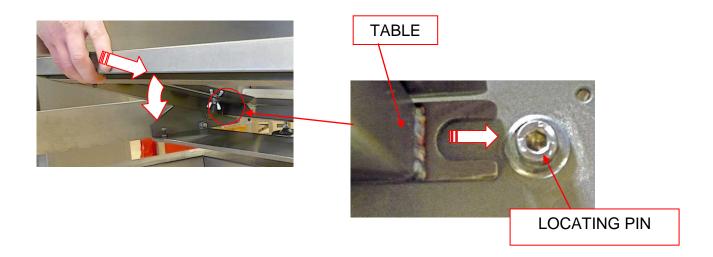
  The table will release from the back pins and can be placed in a washer for cleaning.



#### To replace the table after cleaning:

- 1. Hold table with the front edge raised and engage the slots over the pin on both sides.
- 2. Lower the table front edge.

When in the correct position the table will not slide forward.



## 8.0 OPERATING CONDITIONS

To obtain the best product results and consistent operation,

- ✓ Make sure the depositor is used on a level surface. (Adjust feet if required)
- ✓ Ensure flat trays are used.
- ✓ Ensure undamaged nozzles and templates are used.
- ✓ Keep the machine clean.
- ✓ Do not leave any components in the hopper.



## 9.0 PREPARING FOR OPERATION

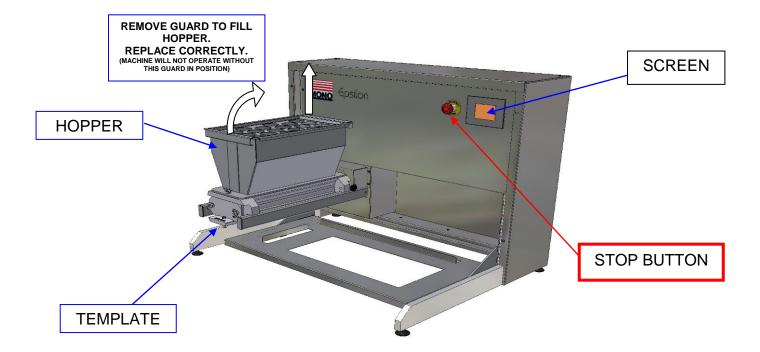
**EPSILON** 

NOTE: THIS MACHINE IS FOR USE WITH SOFT DOUGH ONLY

## 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 required and fit as section 9a & 9b following. Fill hopper with mix and close hopper guard.

It is recommended that when heavy mixes are used, the inside of the hopper should be coated with vegetable oil and 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 the correct 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)

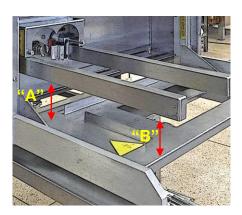
**4** The machine is now ready for operation.

#### **TABLE ADJUSTMENTS**

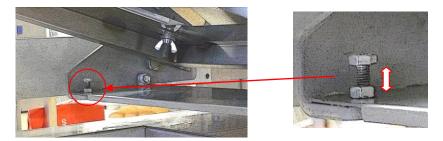
It is important that the table is parallel with the hopper.

(If this is not correct the nozzles will not be the same distance from the trays and the deposits will differ across the tray).

Measure the distance at "A" and "B" below and check that they are the same. This should be checked with the hopper bars positioned at both the full left position and the full right position.



If not the same, an adjustment can be made by raising or lowering the adjusters under the table. There is one each side to allow the table to be adjusted evenly.

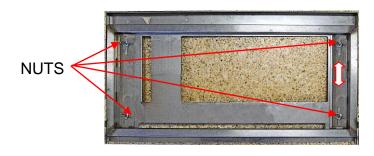


Lift the front edge of the table and, with a suitable spanner, release the locking nut. screw the adjuster bolt up or down and then lock it in position with the locking nut.

#### TRAY GUIDE ADJUSTMENT



This allows different width trays to be accommodated. To adjust the position of the back guide, remove the table and turn it over. Loosen the thumb nuts and slide the sheet across to the desired position. Tighten the nuts and replace the table.



**EPSILON** 

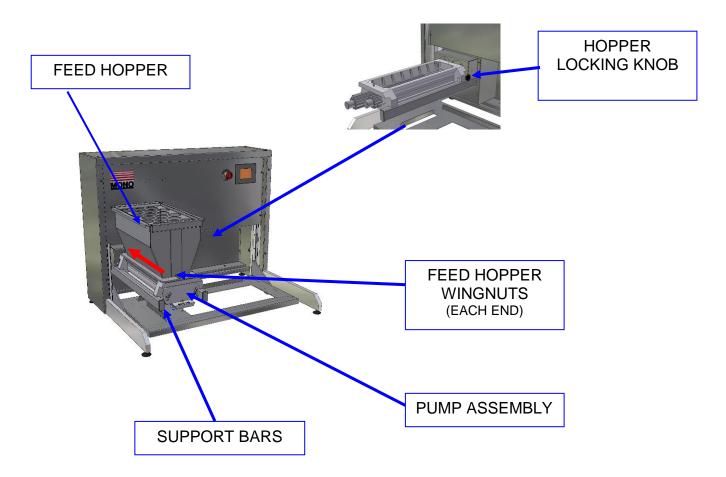
### 9a FITTING THE HOPPER

CAUTION SHOULD BE TAKEN WHEN FITTING HOPPER AND PUMP ASSEMBLY
AS WEIGHT EXCEEDS 25KGS ON SOME MODELS
It will need to be lifted off by two people, or
dismantled into smaller components while still on the machine.

MAKE SURE FLOOR AREA AROUND 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.
- 4 Screw hopper locking knob hand tight.





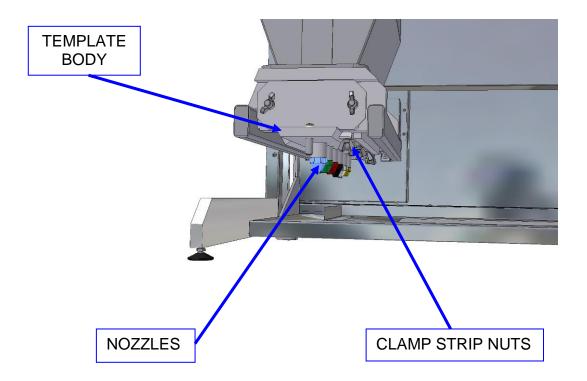
DO NOT OPERATE MACHINE WITHOUT TEMPLATE FITTED



## 9b FITTING A TEMPLATE

- 1 Select template and nozzles required.

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



- 3 Slide template into matching recess at base of pump assembly until the stop is in position.
- 4 Tighten nuts on 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



## 10.0 'Epsilon' 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.

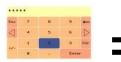
# OPERATING KEY FOR FOLLOWING INSTRUCTIONS

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



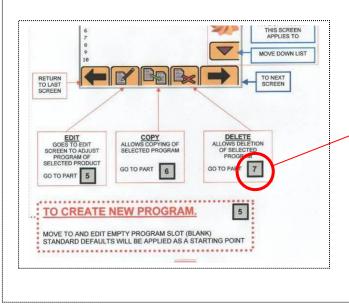
=

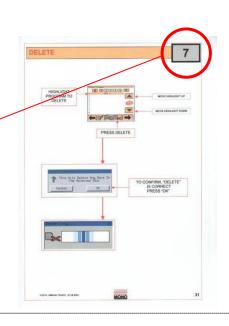
KEYBOARD ENTRY REQUIRED WHEN KEYBOARD APPEARS, A CODE MUST BE ENTERED BY TOUCHING THE NUMBERS IN THE CORRECT ORDER

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)

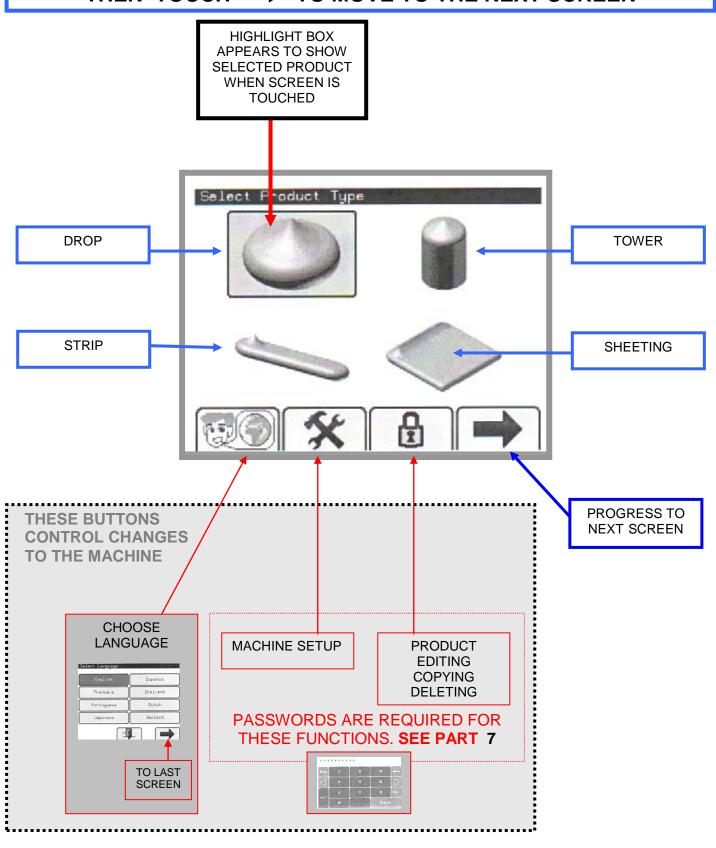






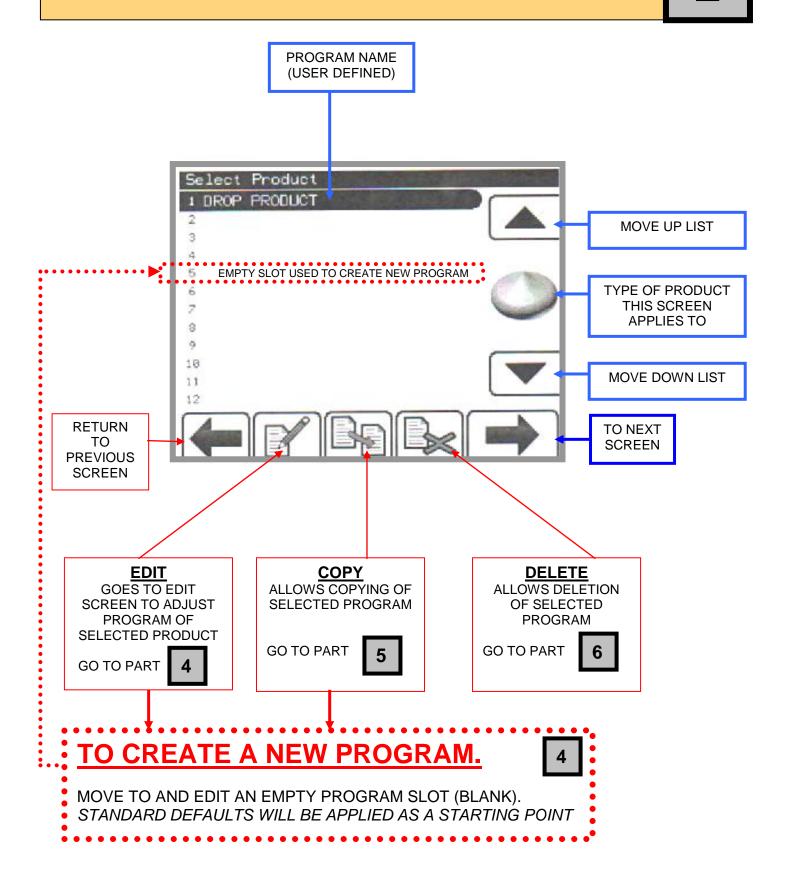
ALL OPERATIONS ARE ACTIVATED BY TOUCHING AREAS ON THE SCREEN WITH A FINGER. DO NOT USE EXCESSIVE FORCE OR HARD OBJECTS AS THIS WILL INVALIDATE MACHINE WARRANTY.

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

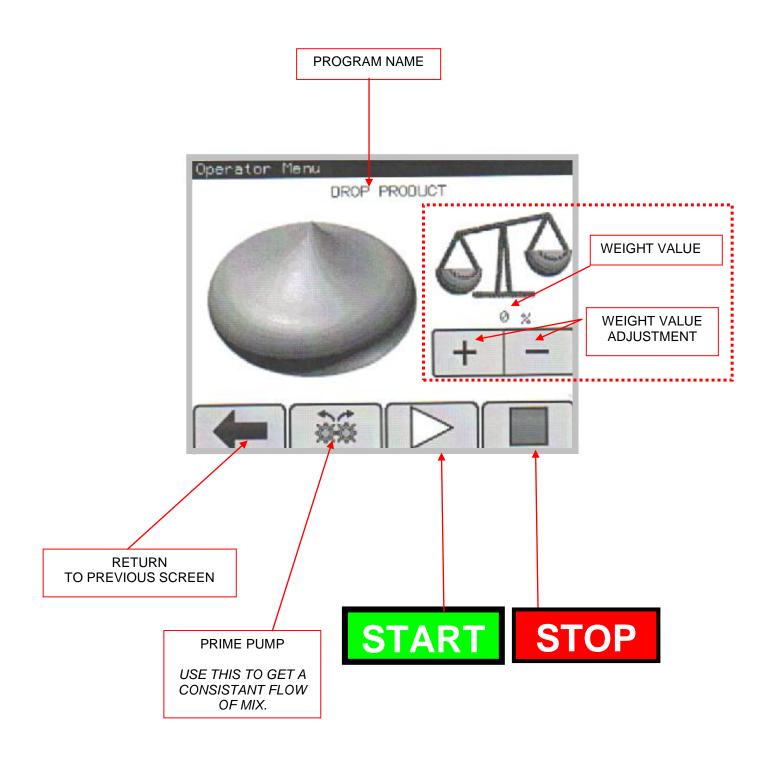


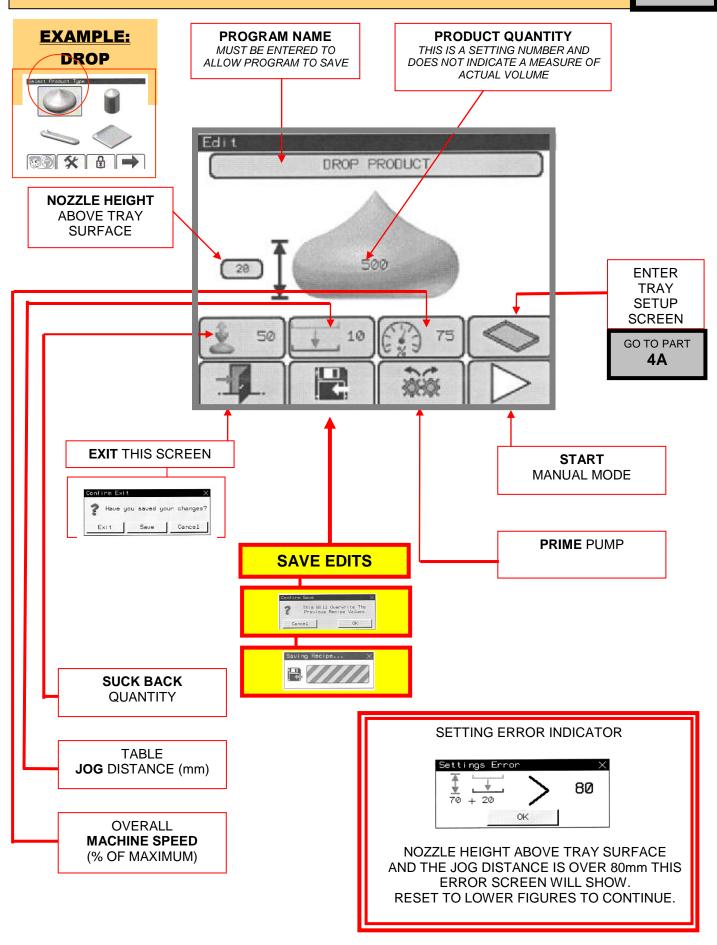
## **SELECT SAVED PRODUCT TYPE**

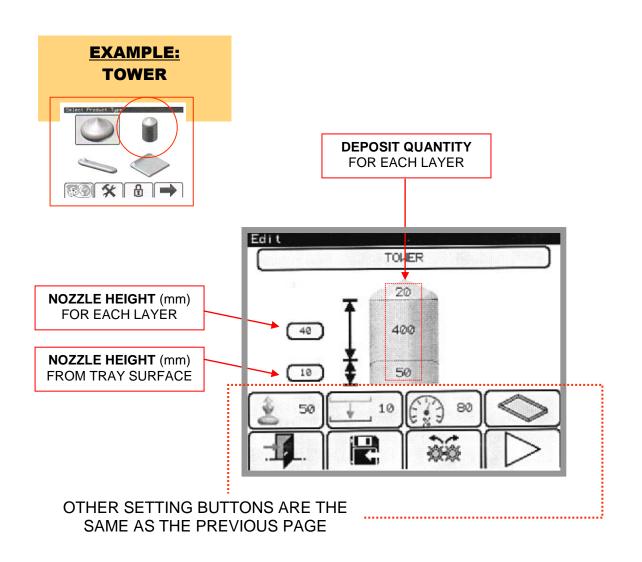
OR CHOOSE EMPTY SLOT TO CREATE A NEW PROGRAM

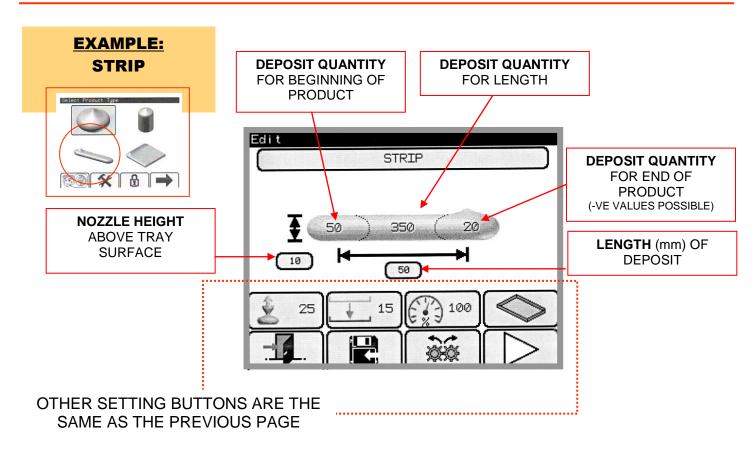


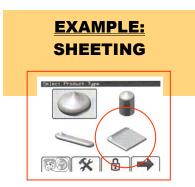
THIS SCREEN CONTROLS THE ACTIONS REQUIRED BY THE OPERATOR.

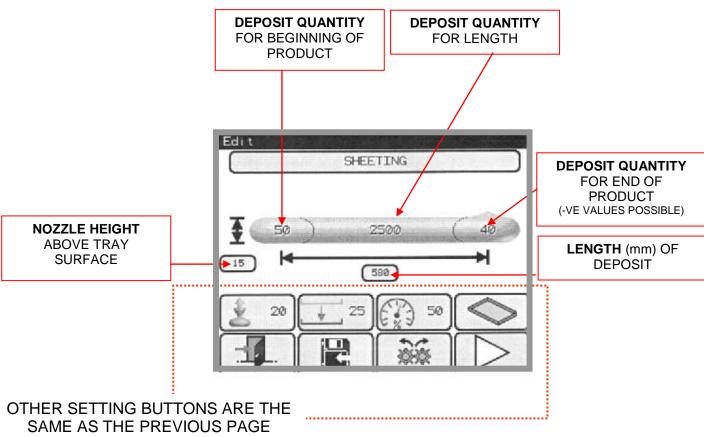






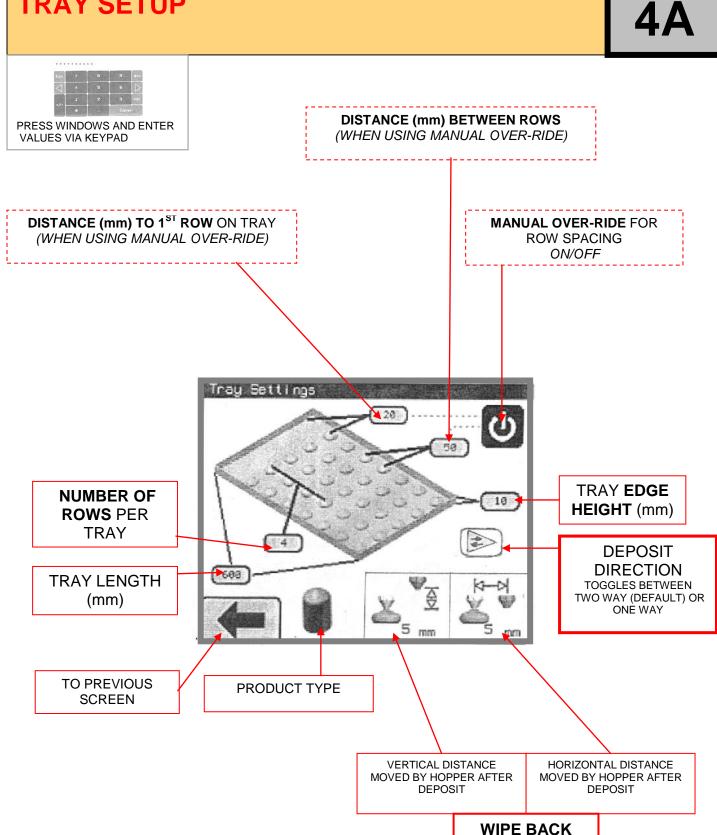


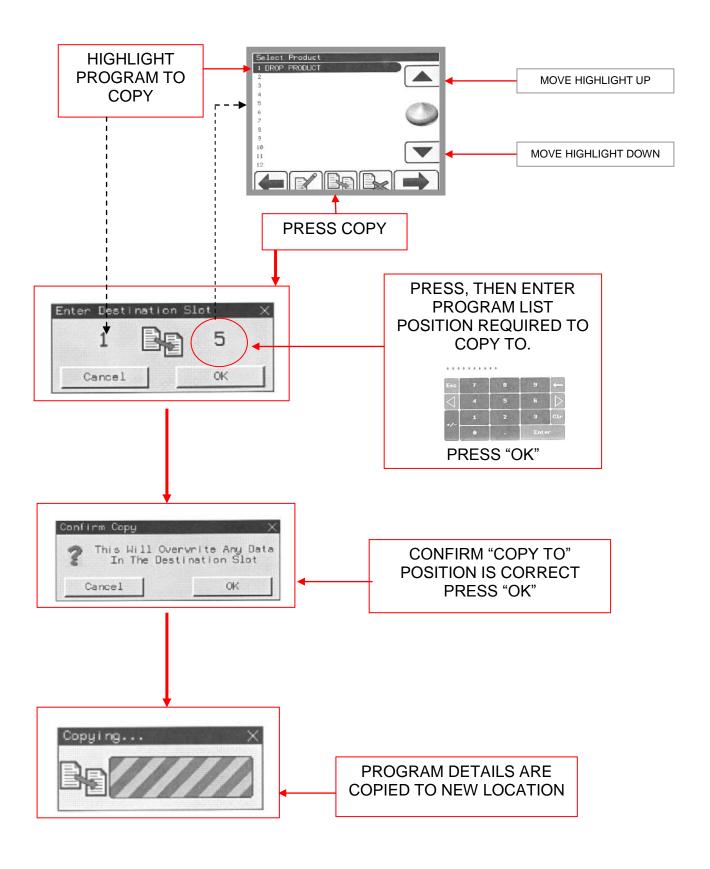




## **TRAY SETUP**

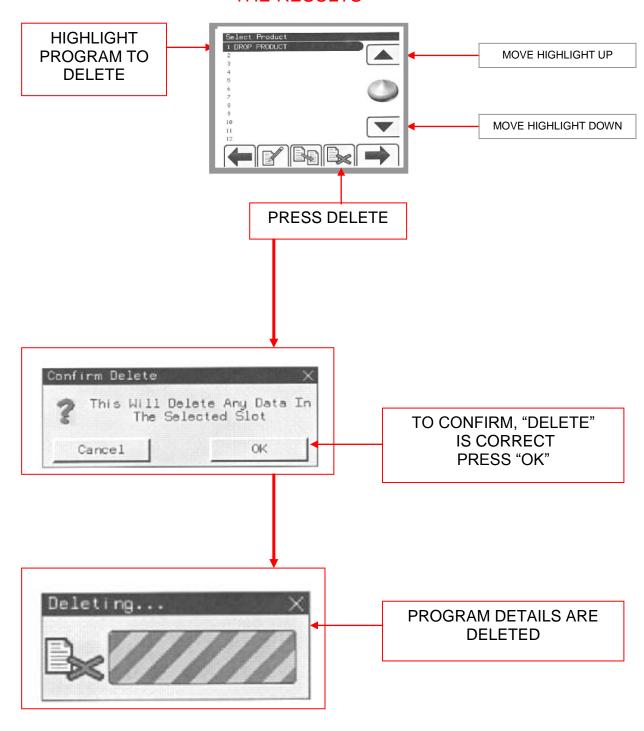






## **CAUTION**

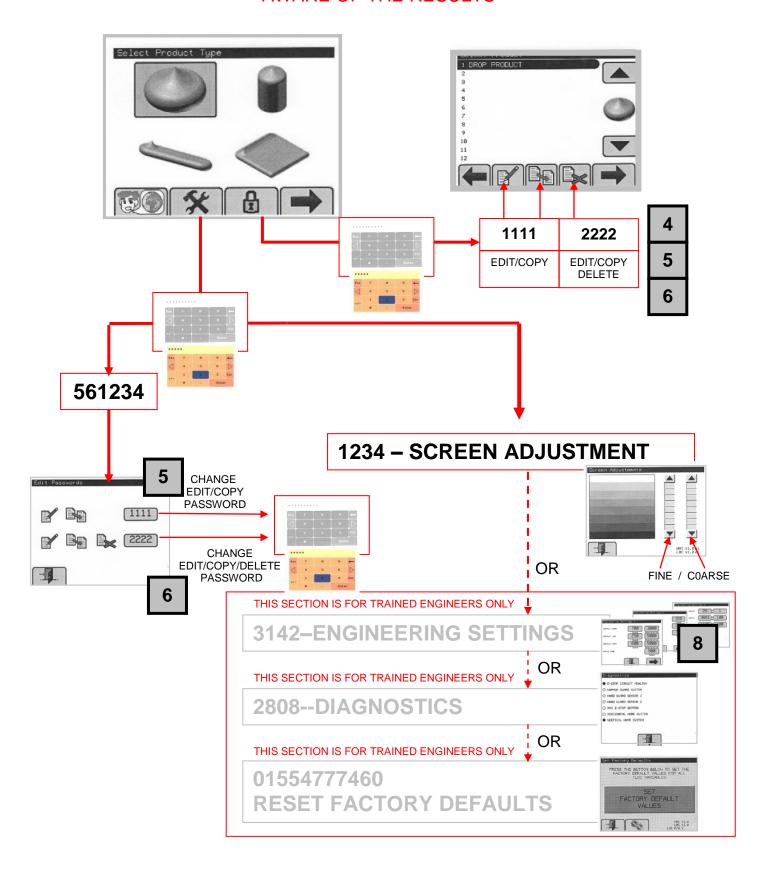
## DO NOT ATTEMPT TO DELETE, UNLESS YOU ARE FULLY AWARE OF THE RESULTS



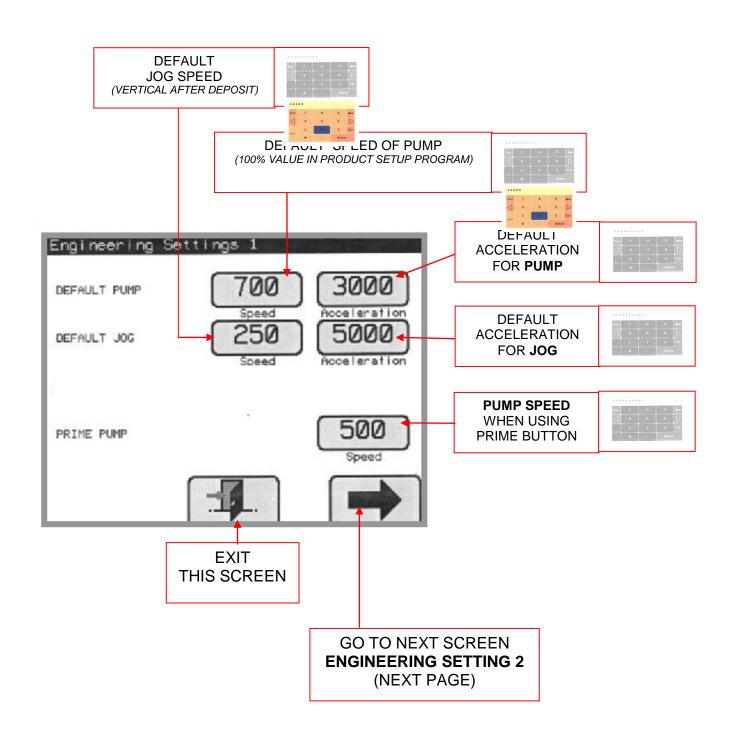
## **PASSWORDS**

## **CAUTION**

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



THIS SECTION IS FOR TRAINED ENGINEERS ONLY



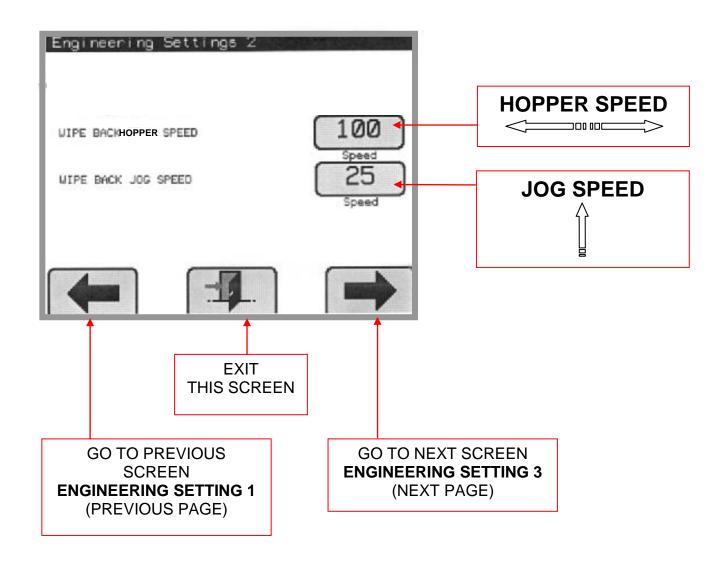
### **CAUTION**

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



THIS SECTION IS FOR TRAINED ENGINEERS ONLY

## WIPE BACK DEFAULT SETTINGS (SEE 4A )



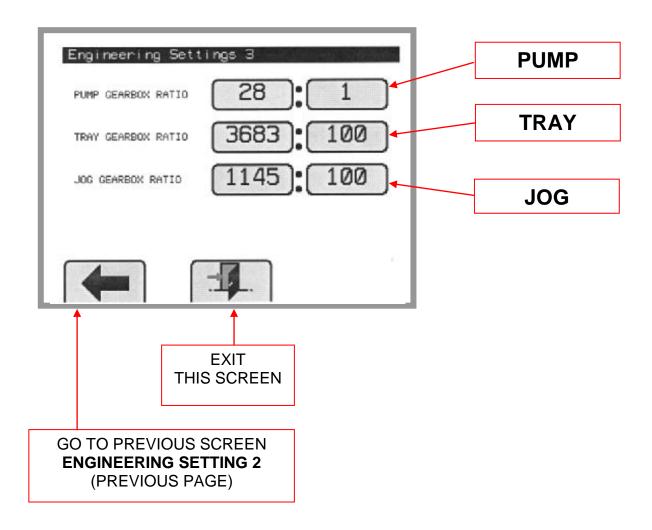
### **CAUTION**

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



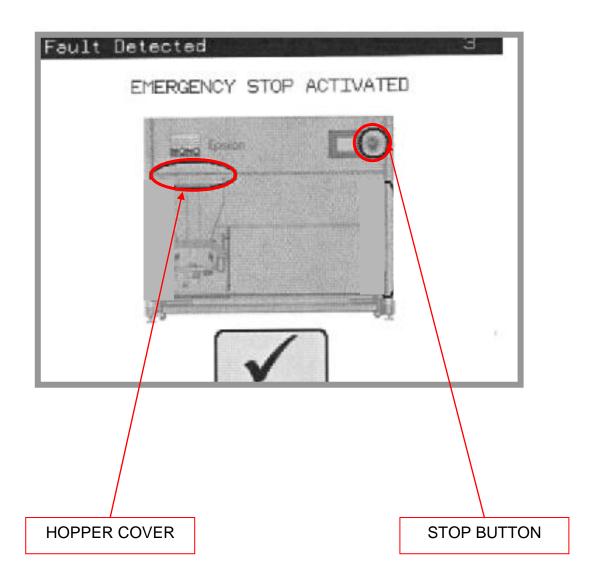
THIS SECTION IS FOR TRAINED ENGINEERS ONLY

#### **GEARBOX RATIOS**



## **CAUTION**

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

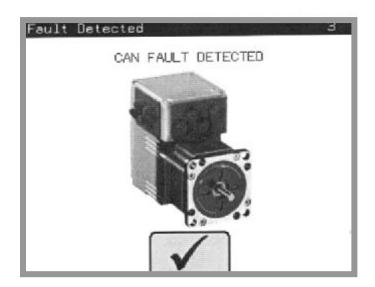


THIS SCREEN INDICATES A FAULT CONDITION IN THE SAFETY AREAS.

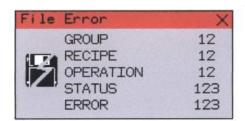
WHEN RED, CLOSE COVER OR CLEAR OBSTRUCTIONS TO CLEAR FAULT. WHEN SCREEN CLEARS, FAULT HAS BEEN CORRECTED.

PRESS BUTTON TO CLEAR SCREEN

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



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.

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

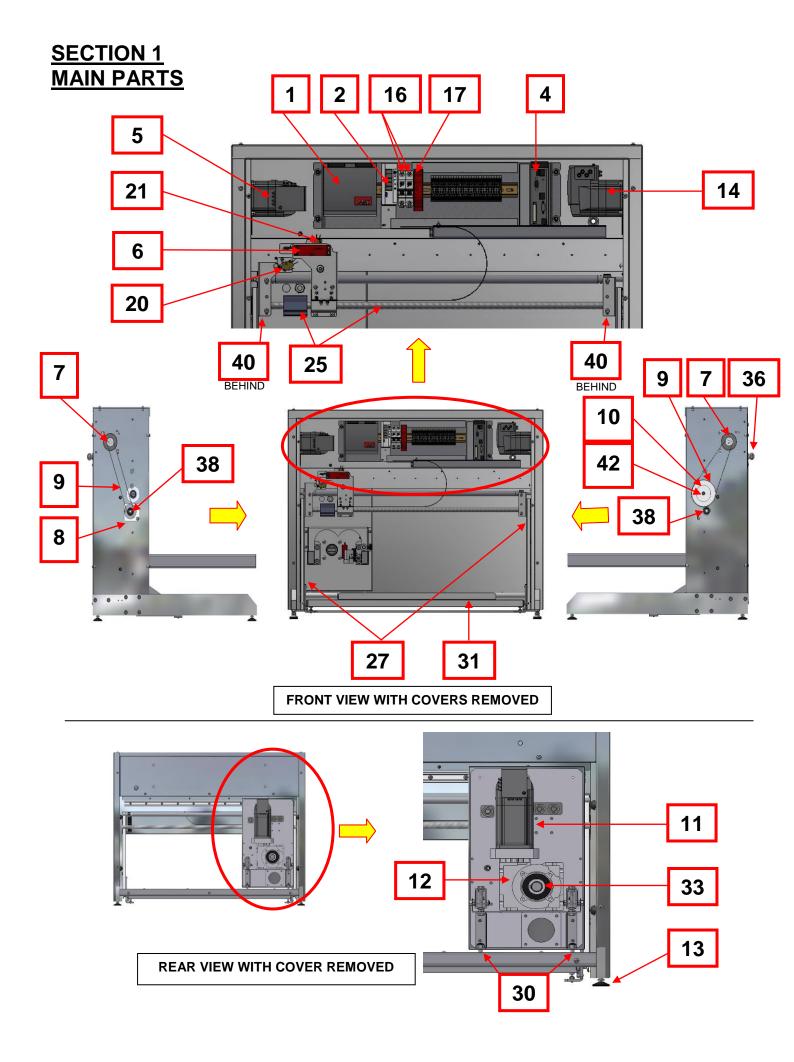
email:spares@monoequip.com SPARES TEL. +44(0)1792 564039

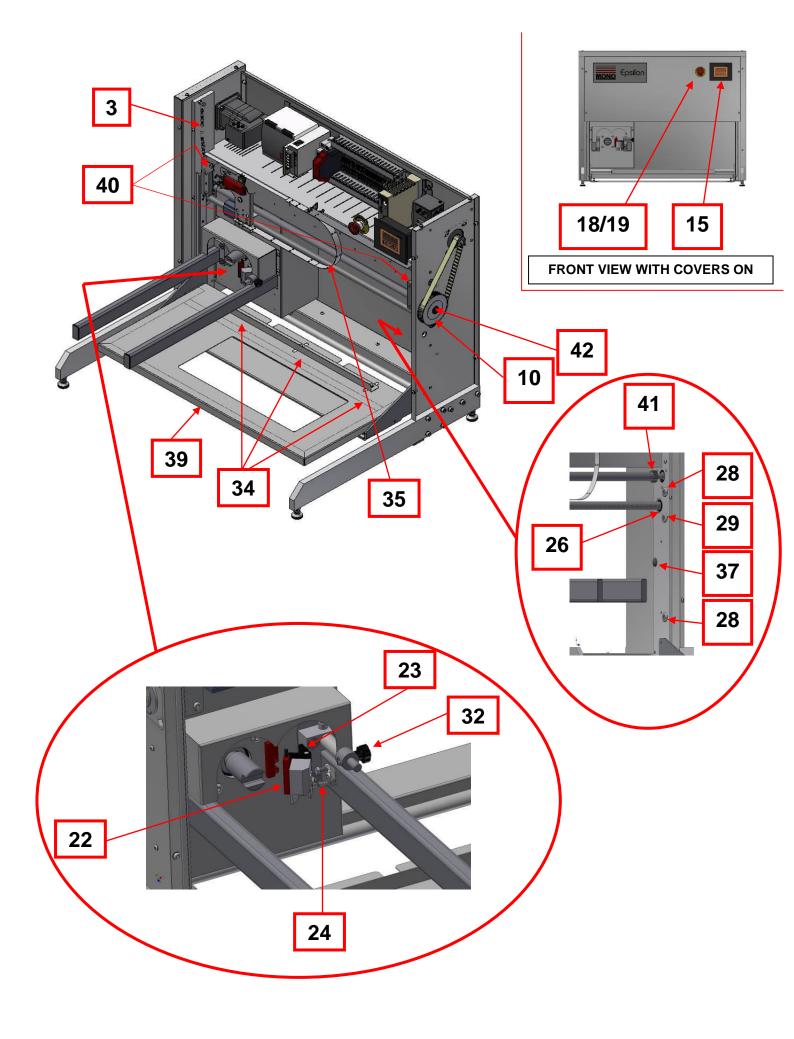
Web site:www.monoequip.com Tel. 01792 561234 Fax. 01792 561016



# 13.0 SPARES

# **EPSILON**



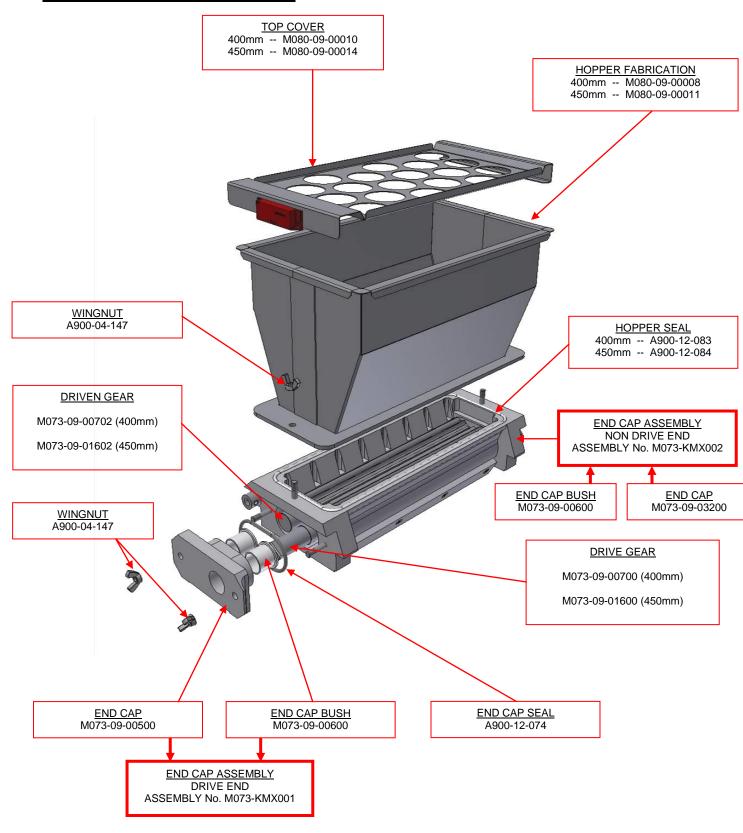


#### PARTS LIST FOR ITEMS ON PREVIOUS PAGES

<u>ITEM</u> <b>1.</b>	<u>DESCRIPTION</u> POWER SUPPLY	<u>PART NUMBER</u> B801-93-019
2.	POWER SUPPLY	B801-93-005
3.	TRAY SPRING	A900-19-097
4.	LMC20	B801-80-033
5.	TRAY MOTOR	B781-74-007
6.	SAFETY SWITCH	B801-07-005
7.	TIMING PULLEY	080-02-00026
8.	TIMING PULLEY	080-02-00020
9.	TIMING BELT	A900-21-107
10.	TIMING PULLEY	080-02-00021
11.	DEPOSIT MOTOR	B781-74-008
12.	GEARBOX	A900-11-095
13.	ADJUSTABLE FOOT	A900-27-227
14.	JOG MOTOR	B781-74-006
15.	НМІ	B801-93-034
16.	CIRCUIT BREAKER	B872-22-003
17.	E-STOP RELAY	B801-11-019
18.	STOP BUTTON	B801-12-043
19.	CONTACT BLOCK	B801-14-008 (N/C), B801-14-004 (N/O)
20.	JOG SWITCH	B842-07-029
21.	TRAY SWITCH	B842-07-030

22.	TEMPLATE SAFETY SWITCH/MAGNET	B801-07-006
23.	HINGE FOR TEMPLATE SAFETY MAGNET	A900-27-217
24.	RETURN SPRING	A900-19-094
25.	BALLSCREW + NUT	080-02-00025 (400 model) 080-02-00048 (450 model)
26.	BEARING FOR BALLSCREW	A900-06-009
27.	VERTICAL SLIDES	A900-31-054
28.	V-ROLLER – CONCENTRIC	A900-06-297
29.	V-ROLLER – ECCENTRIC	A900-06-298
30.	TRACK ROLLER	A900-06-136
31.	TRAY BACK STOP	080-08-00015(450 model) 080-08-00016 (450 model)
32.	HOPPER LOCKING THUMSCREW	A900-27-213
33.	CIRCLIP – HOPPER DRIVESHAFT	A900-01-193
34.	WINGNUT FOR TRAY GUIDE	A900-04-043
35.	CABLE GUIDE STRAP	080-25-00006
36.	MAINS CABLE GLANDS	B900-17-002
37.	BUMP STOPS	A900-18-006
38.	CIRCLIPS – BALLSCREW	A900-01-112
39.	PLATFORM FABRICATION	080-08-0001 (400 model) 080-08-00011 (450 model)
40.	RACK	080-02-00032
41.	PINION	080-02-00032
42.	TRANS-TORQUE BUSH	A900-10-01

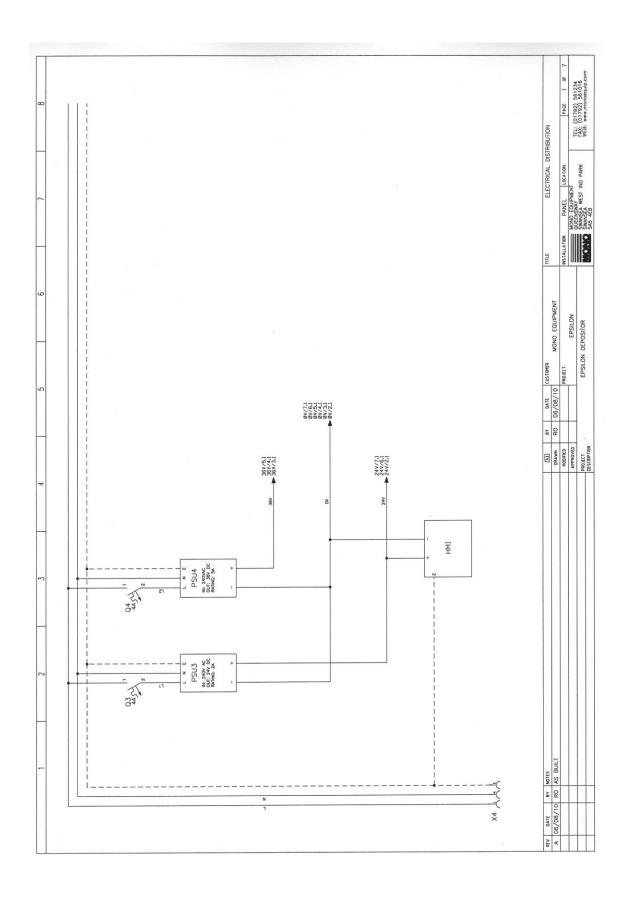
# SECTION 2 DOUGH HOPPER PARTS

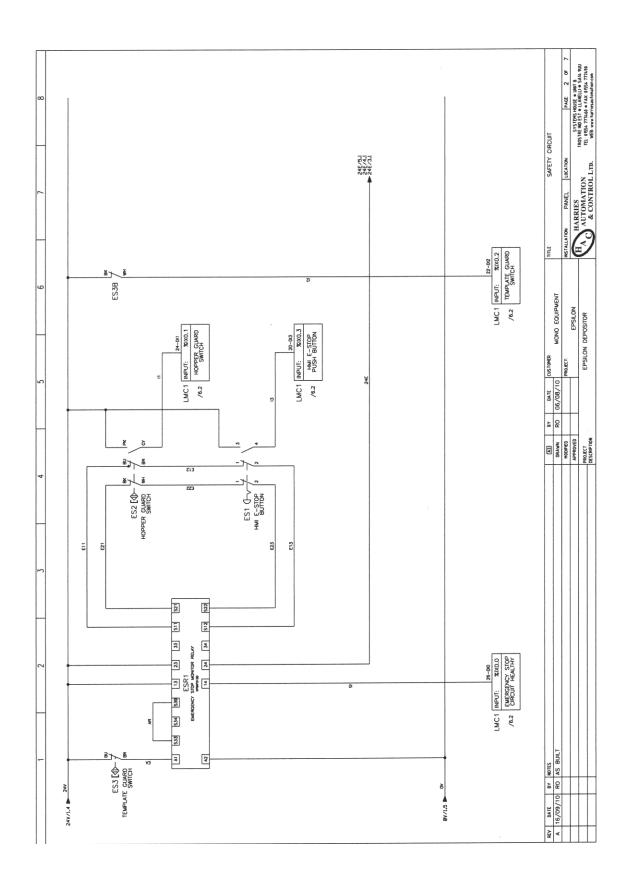


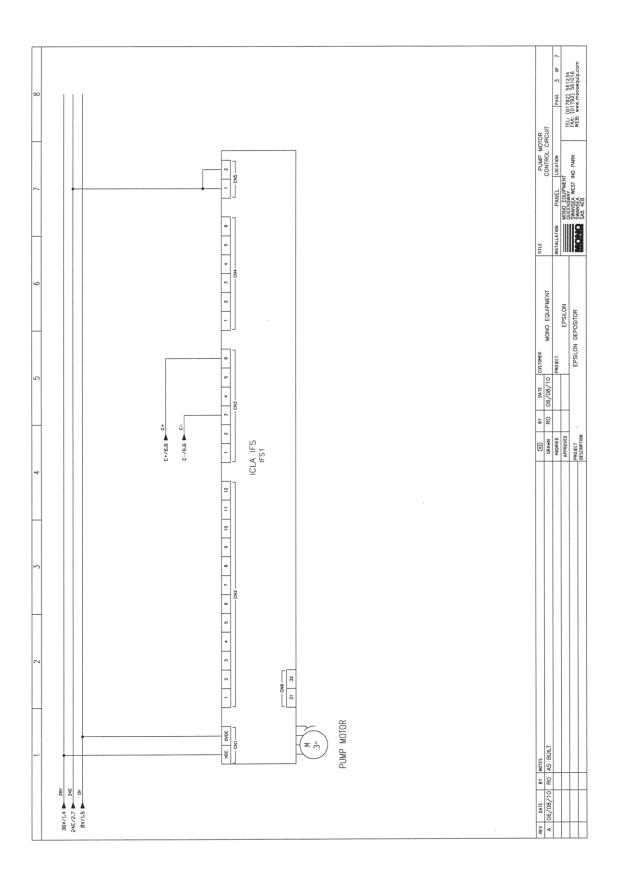


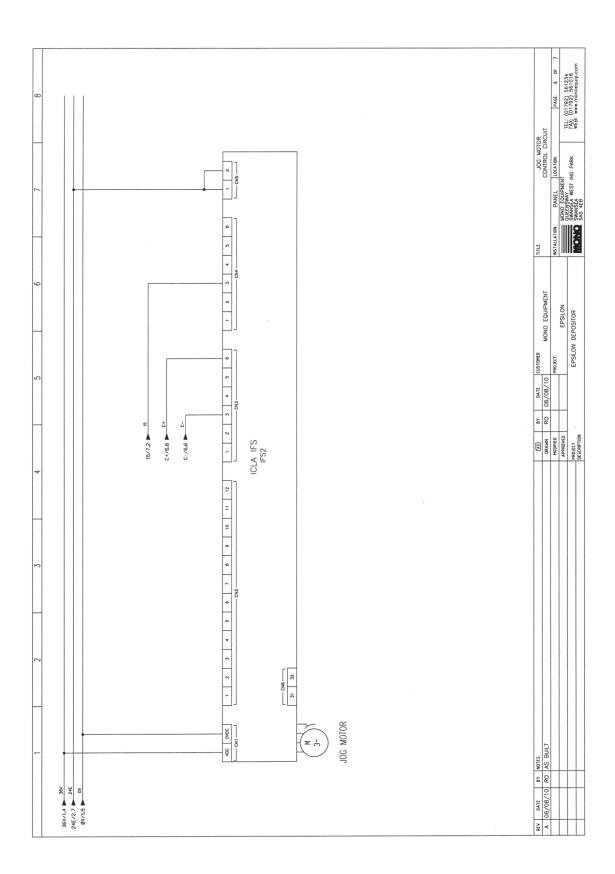
# 14.0 ELECTRICAL INFORMATION **EPSILON**

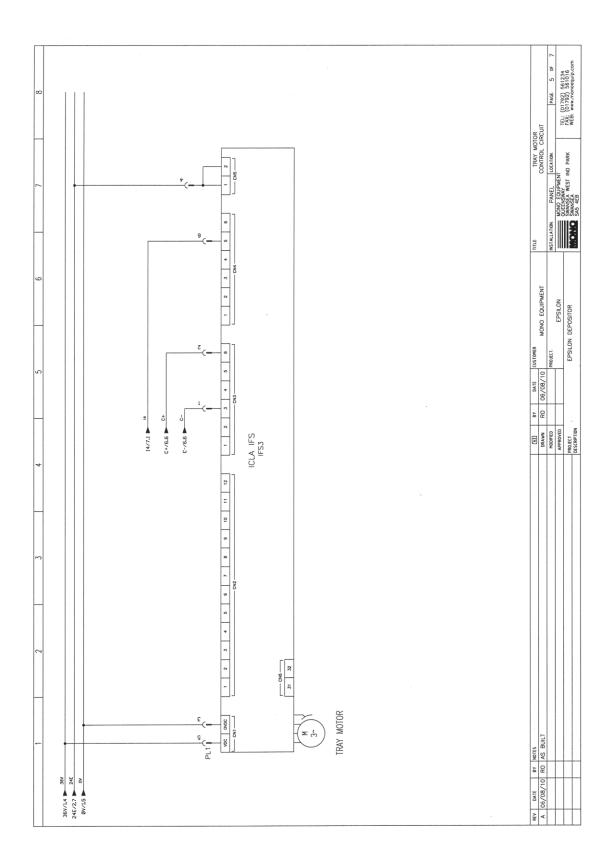
PLEASE CONTACT MONO FOR THE LATEST ELECTRICAL INFORMATION

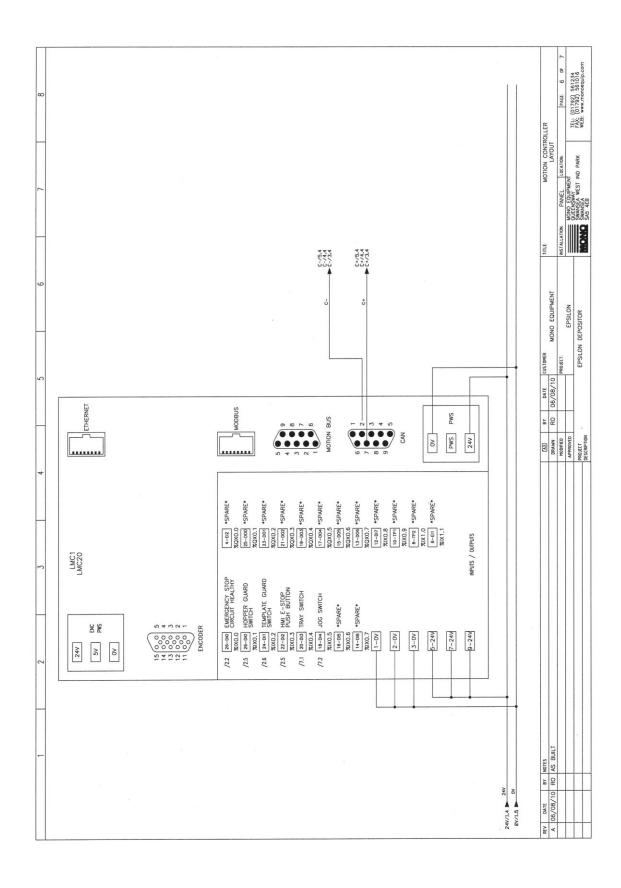


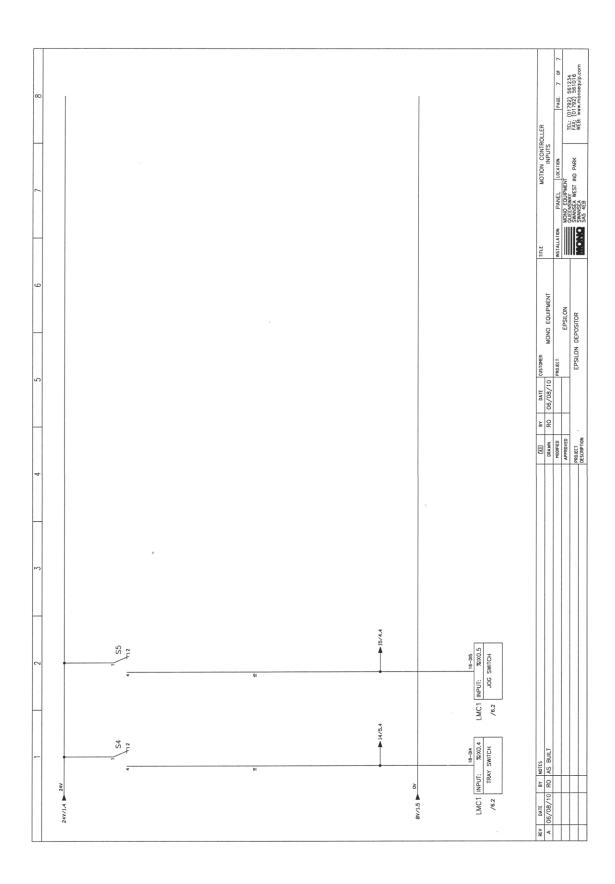












As it is our policy to improve our machines continuously, we reserve the right to change specifications without prior notice





Queensway Swansea West Industrial Estate Swansea. SA5 4EB UK

Tel. +44(0)1792 561234 SPARES Tel. +44(0)1792 564039 Fax. 01792 561016

Email:marketing@monoequip.com

Web site: www.monoequip.com

#### 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.