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Enter **Serial No.** here. _____

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



SET UP AND OPERATION INSTRUCTIONS

METRO MOULDER

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

SAFETY SYMBOLS

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

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



WARNING

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



WARNING

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



CAUTION

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

ELECTRICAL SAFETY AND ADVICE REGARDING SUPPLEMENTARY ELECTRICAL PROTECTION:

Commercial bakeries, kitchens and foodservice areas are environments where electrical appliances may be located close to liquids or operate in and around damp conditions or where restricted movement for installation and service is evident.

The installation and periodic inspection of the appliance should only be undertaken by a qualified, skilled and competent electrician, and connected to the correct supply suitable for the load as stipulated by the appliance data label.

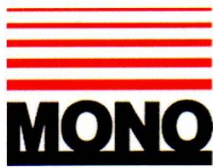
The electrical installation and connections should meet the necessary requirements of the local electrical wiring regulations and any electrical safety guidelines.

We Recommend:

- Supplementary electrical protection with the use of a residual current device (RCD)
- Fixed wiring appliances incorporate a locally situated switch disconnector to connect to, which is easily accessible for switching off and safe isolation purposes. The switch disconnector must meet the specification requirements of IEC 60947.




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



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

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

CONTENTS

1.0 Introduction

2.0 Dimensions

3.0 Specifications

4.0 Safety

5.0 Installation

6.0 Isolation

7.0 Cleaning

- ☐ Daily
- ☐ Weekly

8.0 Operating Instructions

- ☐ How the Metro moulds dough.
- ☐ Operating the moulder
 - **a.** Hopper width adjustment
 - **b.** Sheeting gap adjustment
 - **c.** Side guides adjustment
 - **d.** Moulding pressure adjustment
- ☐ Starting the Metro

9.0 Trouble shooting

10.0 Service and spares

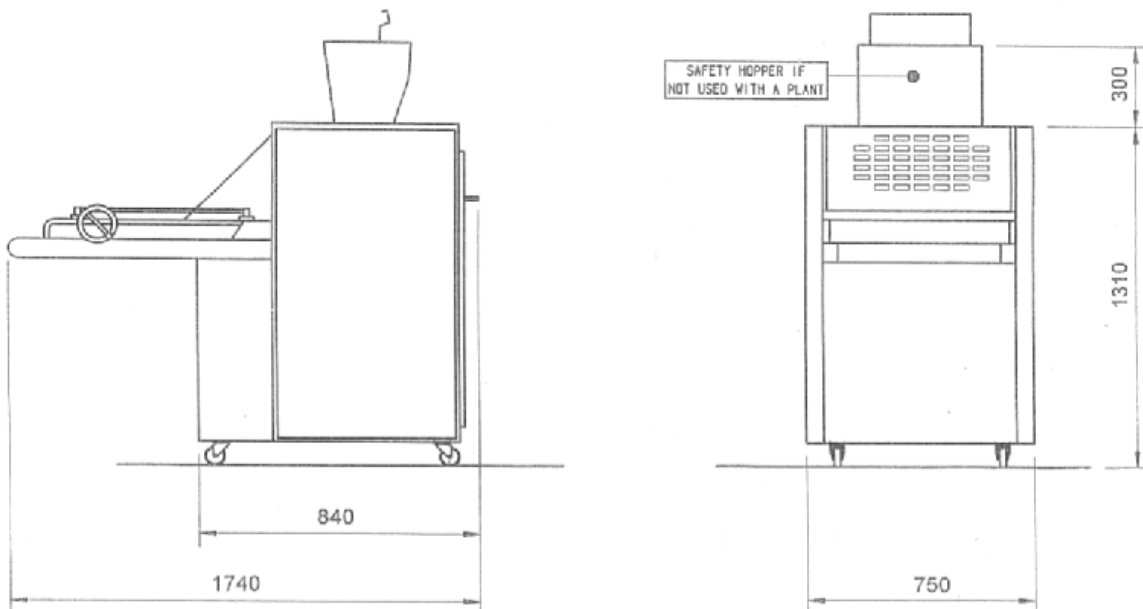
11.0 Electrical information

1.0 INTRODUCTION

The metro moulder has been designed with reliability and ease of operation in mind. Fully interlocked guards and covers ensure that semi skilled personnel can safely operate this versatile machine, which has a maximum output of 1200 dough pieces an hour.

The double sheeting rolls give a gentle two stage reduction of the dough and two curling chains give greatly improved consistency of shape and size to the moulded dough piece. Windows at the front and rear of the machine allow the operator to monitor the progress of the dough right through the moulder.

2.0 DIMENSIONS



HEIGHT	1310mm (WITHOUT HOPPER)
WIDTH	750mm
LENGTH	1740mm

3.0 SPECIFICATIONS

CAPACITY: Dough piece weight range – 56grms to 1.8Kg – (2oz to 4lbs)

OUTPUT: Up to 1200 pieces per hour

POWER: 0.75kW, 3 phase and neutral



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

WEIGHT: 230kg (507lbs)

NOISE LEVEL: Less than 85dB

4.0 SAFETY



- 1 **Never use a machine in a faulty condition** and always report any damage.
- 2 **No-one under the age of 16 may operate** this machine.
- 3 **No-one under the age of 18 may clean** this machine under any circumstances.
- 4 **Only trained personnel may remove any part** from this machine that requires a tool to do so.



- 5 **Always ensure hands are dry** before touching any electrical appliance (including cable, switch and plug).

- 6 **All operatives must be fully trained.**

- 7 People undergoing training on the machine must be under direct supervision.



- 8 **Do not operate the machine with any panels removed.**

- 9 **All guards must be fixed in place with bolts or screws** unless protected by a safety switch.

- 10 **No loose clothing or jewellery** to be worn while operating the machine.



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

- 12 The pressure board adjusting handle, side guide adjuster handle and dough sheet roller gap lever may be adjusted while the machine is running.



**ALL OTHER CLEANING AND MAINTENANCE OPERATIONS MUST
BE MADE WITH MACHINE DISCONNECTED FROM THE POWER SUPPLY
DO NOT ATTEMPT TO CLEAN THE MOULDING BELT
WHEN THE MACHINE IS RUNNING**

- 13 The Bakery Manager or the Bakery Supervisor must carry out daily safety checks on the machine.

WARNING:



Hand or bodily contact with moving belt surfaces may cause friction burns to skin. This situation need not occur to successfully operate the moulder.

5.0 INSTALLATION

- 1 The Metro moulder should be connected to a mains wall isolator or the correct socket on a breadplant.



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

- 2 Check the machine after installation to ensure the conveyor belt runs in the right direction (see direction of arrow below). This should be done by “inching” the motor.
If the motor rotation is incorrect transpose any two wires of the three phase carrying wires.



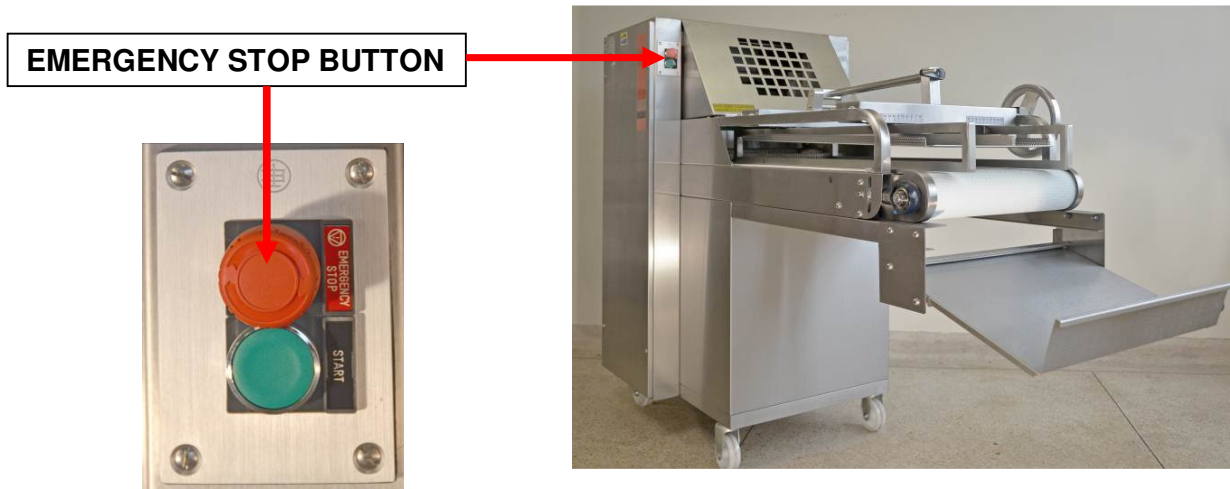
- 3 Ensure the machine is standing on a solid level floor.

Note

The Metro will only work if connected to a bread plant or a safety hopper is fitted.

6.0 ISOLATION

In an emergency, switch off the machine at the wall isolator or at the emergency stop button shown below.



To release stop button after use, twist and release.

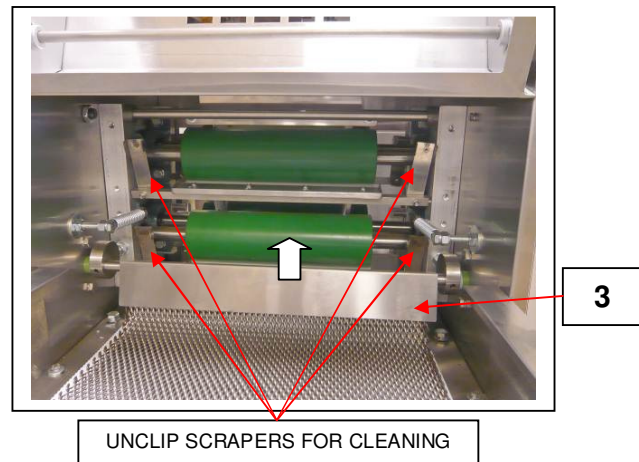
7.0 CLEANING



SWITCH OFF AND ISOLATE MACHINE FROM MAINS SUPPLY BEFORE COMMENCING CLEANING

DAILY CLEANING (DO NOT USE A PRESSURE WASHER)

1. Remove hopper (if fitted) or pull machine away from prover.
2. Scrape off any dough residue.
3. If a hopper is fitted, wipe over the plastic window with a soft cloth dampened in a sterilising solution and hot water.
4. Replace hopper where applicable.

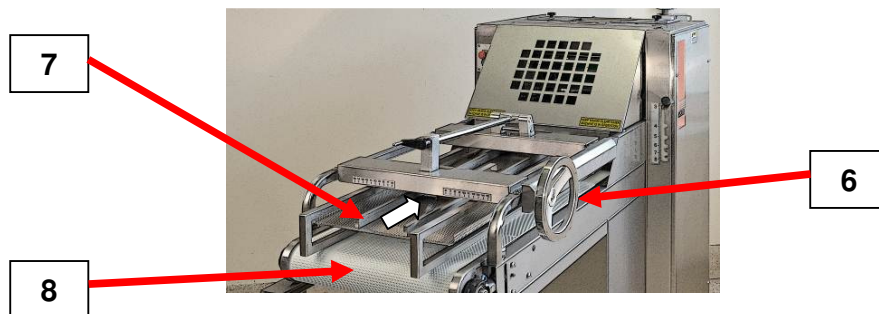


5. Raise front-hinged cover (2).
6. Lift out curling chain (3) and shake off any dough residue, then brush with a stiff nylon brush. *****DO NOT WASH*****
7. Replace chain.
8. Unclip the scrapers and wipe clean (see photo above). *****DO NOT WASH*****
Smear edges with vegetable oil.
9. Scrape rollers with a **plastic** scraper and remove any debris from the roller edges.
10. Replace scrapers and close front cover.

11. Unclip and lower the rear window (5)



12. Unclip and wipe the rear scrapers
*****DO NOT WASH*****
Smear edges with vegetable oil.
13. Scrape rollers with a **plastic** scraper and remove any debris from the roller edges.
14. Replace scrapers. Raise rear window. Wipe over plastic window, with soft cloth dampened in a sterilising solution and hot water.
15. Open dough guides to maximum width by turning wheel (6). Push pressure board (7) towards the main body, then withdraw.



16. Wash pressure board in sterilising solution and hot water, then dry and replace.
17. Scrape dough belt (8) with a **plastic scraper**.

DO NOT USE METAL SCRAPER OR ATTEMPT TO CLEAN WITH WATER. BELT WILL NEED TO BE INCHED FORWARD TO GAIN ACCESS TO ALL PARTS OF SURFACE. SEE SAFETY INSTRUCTIONS.

18. Brush down external surface of machine to loosen any dough remaining.
19. Spot clean with cloth and sterilising solution and hot water paying particular attention to handles, levers and controls.

WEEKLY CLEANING

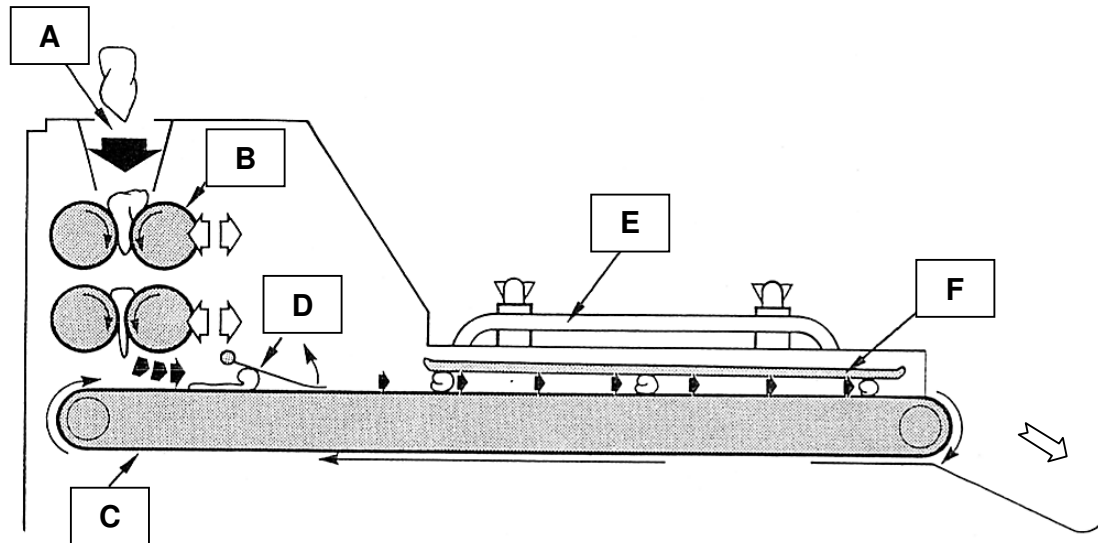


SWITCH OFF AND ISOLATE MACHINE FROM MAINS SUPPLY BEFORE COMMENCING CLEANING

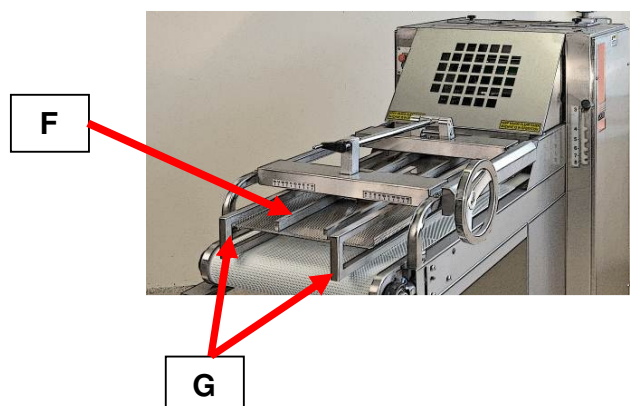
1. Follow the daily cleaning instructions 1 - 14 in previous section.
2. Remove side and back panels placing screws in a safe place.
3. Brush down framework where accessible to remove excess flour and dough.
4. Wipe down with a damp cloth and sterilising fluid and hot water.
5. Replace panels ensuring all screws are accounted for.
6. Follow the daily cleaning instructions 15 - 19 in previous section.
7. Scrape and scrub wheels clean as needed.

8.0 OPERATING INSTRUCTIONS

HOW THE METRO MOULDS DOUGH PIECES



- ☐ Dough piece is feed into hopper (A) from intermediate prover or safety hopper.
- ☐ Twin sets of rollers (B) form a sheet of dough.
- ☐ This is carried along the off take conveyor (C) to the curling chain (D).
- ☐ The curling chain then picks up the leading edge of the dough sheet and forms a curled roll of dough.
- ☐ This is then carried to the pressure module (E) in which it is moulded. Its final shape and consistency are determined by the pressure board (F) and the side guides (G) positions.
- ☐ The finished dough pieces are conveyed to the collection tray.



OPERATING THE METRO MOULDER

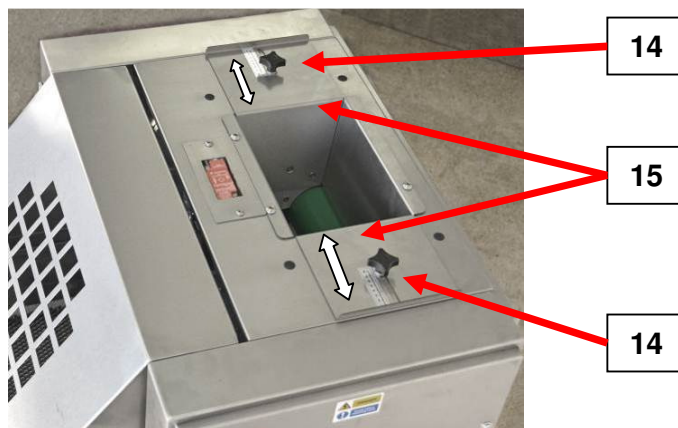
To ensure the best mould, make sure that the moulder is free of any previous dough used and set the following adjustments.

- a. Hopper width. (move cheeks(15) to required width).
- b. Sheeting gap. (move lever (16))
- c. Side guides position.(turn wheel (6) to adjust pressure board width)
- d. Moulding pressure.(turn handle (17) to adjust pressure board height)

MOULDER ADJUSTMENTS CHART				
DOUGH PIECE WEIGHT	HOPPER CHEEK SETTING	SHEETING ROLL GAP SETTING	PRESSURE BOARD WIDTH	PRESSURE BOARD HEIGHT SETTING
900g	1	4	10	10
450g	5	6	8	6
225g	6	6	10.5	6

a. HOPPER WIDTH ADJUSTMENT.

- 1. Slacken wing bolts (14) and slid the hopper cheeks (15) to the required setting. *See chart above for suggested settings.*
- 2. Hand-tighten wing bolts and go on to the next adjustment.



b. SHEETING GAP ADJUSTMENT.

1. Move roller gap lever (16) to required setting.
See chart for suggested settings.



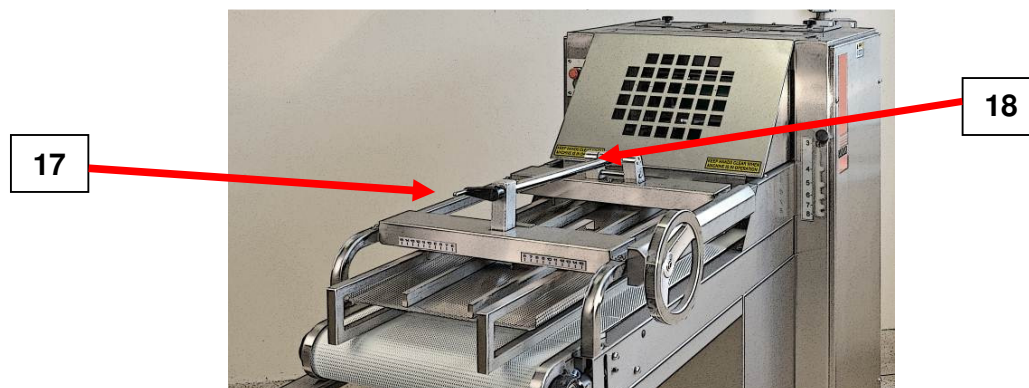
c. SIDE GUIDES ADJUSTMENT.

1. Turn wheel (6) to required setting.
See chart for suggested settings.

d. MOULDING PRESSURE ADJUSTMENT.

1. The pressure board height is adjusted by turning the adjusting handle (17).

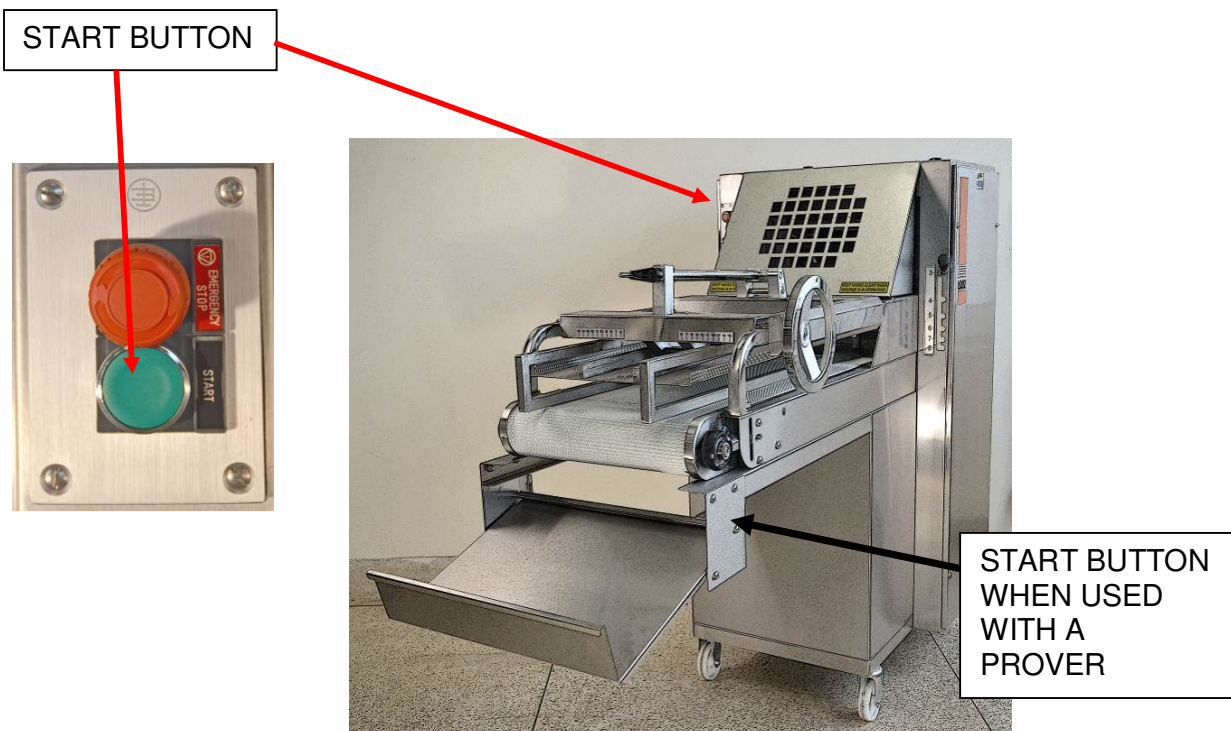
To ensure the moulding pressure can be exactly reproduced at a later date, the adjusting handle shaft is graduated (18).



STARTING THE METRO

- ❑ Before starting ensure the metro has been adjusted for the product mould required. (See previous section.)
- ❑ If using in conjunction with a prover make sure that the eight minute pocket is open.
- ❑ Do not allow dough pieces to “skin” as this will result in the dough pieces catching each other up, “doubling”, and could cause a jam.

To start the machine press the green button found either on the main body next to the stop switch or, if used with a prover, on the front of the off take conveyor right hand side.



If used with a prover always start the moulder before the prover or a build up of dough could clog the moulder hopper

9.0 TROUBLE SHOOTING ---

MOULDER WILL NOT START

- ☐ Is power supply switched on?
 - ☐ Is stop button released?
(twist to release)
 - ☐ Are all covers and doors closed?
 - ☐ When used with a prover, is machine in the correct position under the conveyor?
-

DOUGH PIECES DOUBLE UP

- ☐ Dough has been allowed to “skin” (left too long proving).
 - ☐ Hopper setting incorrect. (Increase gap)
-

DOUGH PIECES TEARING

- ☐ Pressure board (7) too low.
- ☐ Sheeting gap too small

10.0 SERVICE AND SPARES

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

MONO

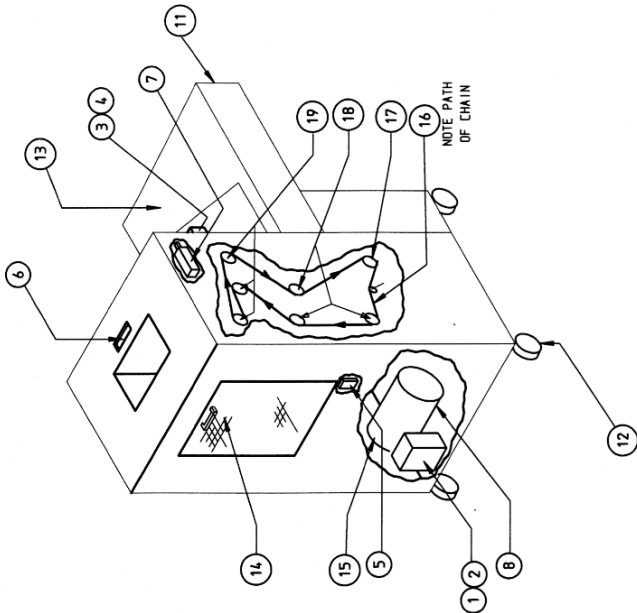
Queensway
Swansea West Industrial Estate
Swansea.
SA5 4EB
UK

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

Web site: www.monoequip.com

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

ITEM	PART No.	DESCRIPTION
1	B850-03-001	MAIN MOTOR CONTACTOR
2	B850-01-002	THERMAL OVERLOAD
3	B801-12-015 B801-12-001	STOP BUTTON CONTACT BLOCK
4	B801-12-002 B801-12-002	START BUTTON CONTACT BLOCK
5	B801-11-009	REAR ACCESS COVER SAFETY SWITCH
6	B818-07-008	HOPPER SAFETY SWITCH
7	B801-11-008	FRONT COVER SAFETY SWITCH
8	B809-74-018	MAIN MOTOR
9		
10		
11	021-06003500	FRONT CONVEYOR BEARING
12	M001-KSX001	CASTOR (WITH FITTINGS)
13	A900-22-061	MAIN MOULDING BELT
14	021K04001300	SHEETING ROLL SCRAPER BLADE
15	A900-21-056	DRIVE VEE BELT
16	021-03-02000	DRIVE CHAIN
17	021-03000600	12 TOOTH SPROCKET
18	021-03000700	18 TOOTH SPROCKET
19	021-03-03800	22 TOOTH SPROCKET AND BEARING
20	A900-06-026	SHEETING ROLL BEARING (NOT SHOWN)
21	A900-06-032	TRANSMISSION SHAFT BEARING (NOT SHOWN)
22	A900-06-034	REAR CONVEYOR BEARING (NOT SHOWN)
23		



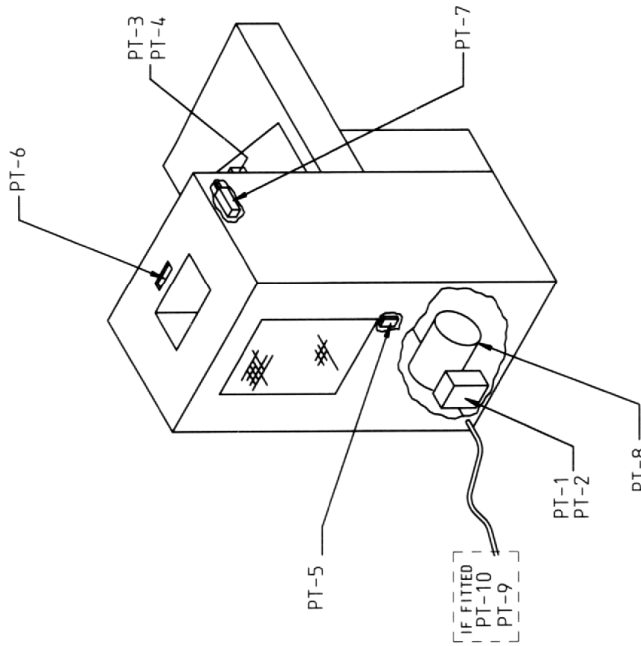
E	RAC	29-06-16	part 19 was 021-03001000	MD-037-15-16
D	RAC	11-8-10	PT1 WAS B809-03-005, PT2 WAS B809-01-004	115/10
C	JC	19-06-08	PT1 WAS B809-03-004	091/08
B	JC	30-07-07	PT1 & PT2 WERE B775 (MTE)	3033
A	RAC	3-2-04	PARTS 1 AND 2 CHANGED	2138
REV	SIG	DATE	REVISION	ECN NO.
<div> <div> <div> <div>MONO EQUIPMENT</div> <div>PO BOX 100</div> <div>SWANSEA WEST IND PARK</div> <div>SWANSEA</div> <div>SAS 4EB</div> <div>TEL: (01792) 561234</div> <div>FAX: (01792) 561016</div> </div> <div> <div>MONO</div> </div> </div> <div> <div>TITLE:</div> <div>MONO METRO MOULDER</div> <div>SPARES LIST AND DIAGRAM</div> <div>(STANDARD)</div> </div> </div>				
MATERIAL:		DRAWN:	PURCHASE ORDER NO.	WORKS ORDER NO.
MAYL QTY:		S.P.		
FINISH:		DATE:		
		NO. REQ:		
		DRAWING SCALE:		
		DRAWING NO.		
		SIZE A3		
		SCALE		
		8-8-96		
		M021-01-04.000		
		E		

REMOVE ALL BURRS & SHARP EDGES - ON SHEET METAL PARTS EXTERNAL CORNERS TO BE SAFETY RADIUS 2mm UNLESS STATED OTHERWISE
 SURFACE FINISH: $\frac{1}{2}$ COARSE FINISH, $\frac{1}{4}$ MEDIUM FINISH, $\frac{1}{8}$ FINE FINISH, $\frac{1}{16}$ GROUND FINISH
 OPEN TOL. 150 & BELOW $\pm .5$, OVER 150 ± 1.0 DECIMAL DIM. .75 & BELOW $\pm .25$, .75 TO 300 $\pm .4$, 300 TO 600 $\pm .5$, OVER 600 ± 1.0
 1st ANGLE
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11.0 ELECTRICAL INFORMATION

IF IN ANY DOUBT - ASK

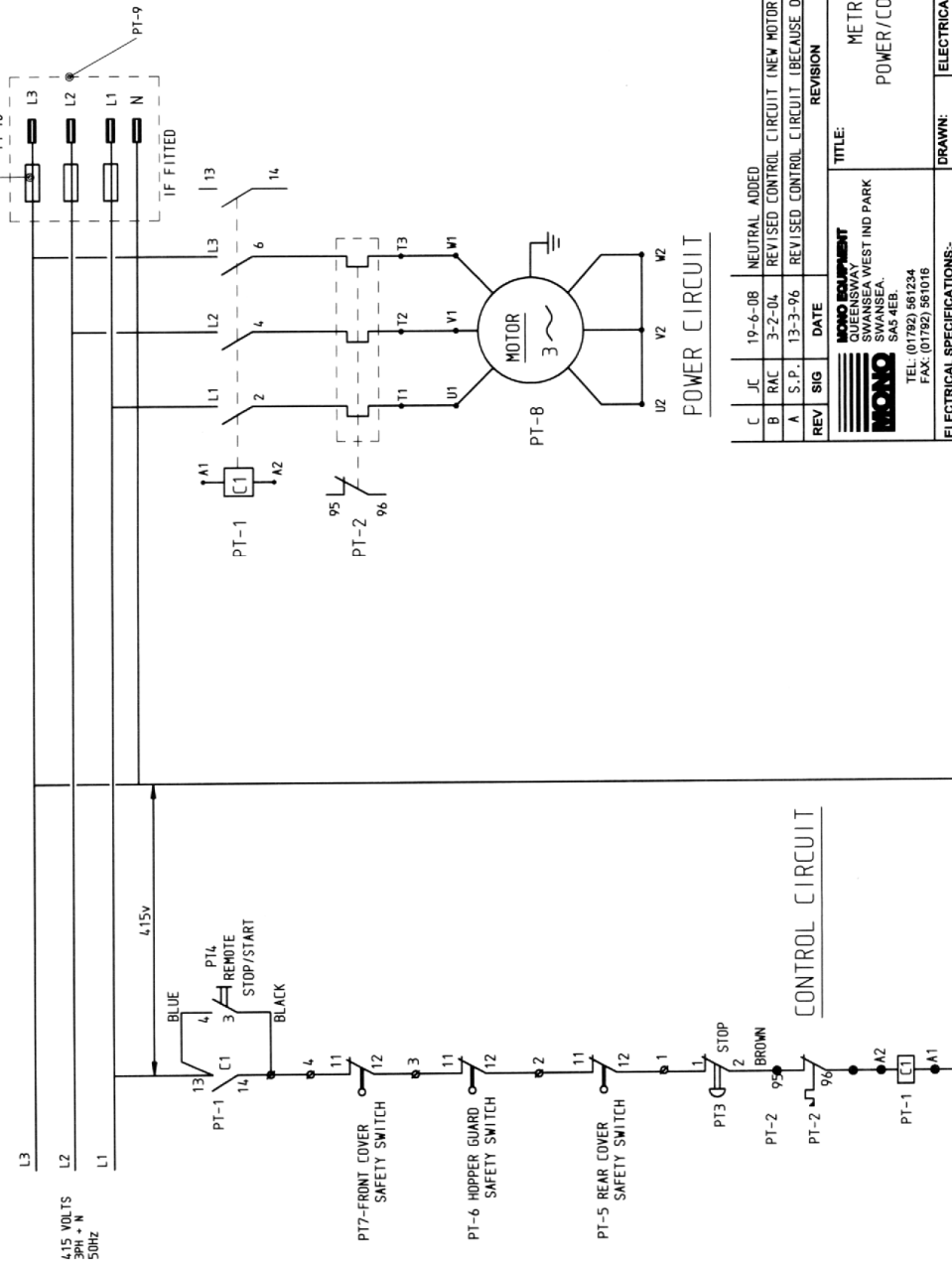


DRAWING PT-Ref	DESCRIPTION	MONO PART NUMBER
PT-1	MAIN MOTOR CONTACTOR	B824-08-002
PT-2	MAIN MOTOR THERMAL OVERLOAD	B824-01-003
PT-1	MAIN MOTOR CONTACTOR	B809-03-005
PT-2	MAIN MOTOR THERMAL OVERLOAD	B809-01-004
PT-3a	REMOTE STOP BUTTON	B801-12-015
PT-3b	REMOTE STOP BUTTON CONTACT BLOCK	B801-14-001
PT-3c	"STOP" LEGEND	B801-15-003
PT-4a	REMOTE START BUTTON	B801-12-002
PT-4b	REMOTE START BUTTON CONTACT BUTTON	B801-14-002
PT-4c	"START LEGEND	B801-15-002
PT-5	REAR ACCESS COVER SAFETY SWITCH	B801-11-009
PT-6	HOPPER SAFETY SWITCH	B818-07-008
PT-7	FRONT COVER SAFETY SWITCH	B801-11-008
PT-8	MAIN MOTOR	B809-74-018
PT-9	MAINS PLUG (IF FITTED)	B814-25-001
PT-10	MAINS PLUG FUSE (IF FITTED)	B883-85-001

F	JC	19-06-08	PT1 WAS B809-03-004	091/08
E	JC	30-07-07	PT1 & PT2 WERE B775 (MTE)	3033
D	RAC	3-2-04	PARTS 1 AND 2 CHANGED	2138
C	JC	11-1-99	PARTS LIST REVISED	08/55
B	SP	13-3-96	NEW MTE STARTER. (PARTS LIST REVISED)	6097
A	SP	12-1-95	PICTORIAL CORRECTIONS	
REV	SIG	DATE	REVISION	ECN NO.
MONO EQUIPMENT QUERREY SWANSEA S44 4EL TEL: (01792) 881234 FAX: (01792) 881016				
TITLE: METRO MOULDER COMPONENTS LAYOUT				
ELECTRICAL SPECIFICATIONS:- 415V 3PH N 50Hz				
DRAWN: SP/JC ELECTRICALLY APPROVED BY:-				
DATE: 24-5-96 SHEET 1 OF 2				
DRAWING NO. M021E25-00500 REV: F				

REVISION ON CUD 10-98
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IF IN ANY DOUBT - ASK



C	JC	19-6-08	NEUTRAL ADDED	091/08
B	RAC	3-2-04	REVISED CONTROL CIRCUIT (NEW MOTOR CONTACTOR)	2138
A	S.P.	13-3-96	REVISED CONTROL CIRCUIT (BECAUSE OF NEW MTE STARTER)	6097
REV	SIG	DATE	REVISION	ECN NO.
TITLE: METRO MOULDER POWER/CONTROL DIAGRAM				
DRAWN: S.P.				
ELECTRICALLY APPROVED BY:-				
DATE: 12-1-95				
DRAWING NO. SHEET 2 OF 2				
M021E25-00500				
REV: C				

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Queensway
Swansea West Industrial Estate
Swansea. SA5 4EB UK

Spares Tel. +44(0)1792 564039

Tel. +44(0)1792 561234
Fax. +44(0)1792 561016

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 BY RECYCLING
OR OTHER MEANS OF DISPOSAL THAT COMPLIES WITH LOCAL REGULATIONS.
(IN UK, ENVIRONMENTAL PROTECTION ACT 1990 APPLIES)**