

ADKINS

Studio 'EZ'-5 Station Multi Mug



Operators Handbook

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Preface

Dear User

Welcome to the growing group of Studio 'EZ'-5 Station Multi Mug Press users. The product you have purchased has been carefully designed and manufactured to ensure that you, the user, will gain the maximum benefit.

All A. Adkins & Sons Limited products are specifically designed to ensure ease of use with particular attention to safety requirements.

Should you discover any fault or damage upon receipt of this product, you should immediately contact your supplier.

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1. Introduction Studio 'EZ'-5 Station Multi Mug Press

The Studio 'EZ'-5 Station Multi Mug Press has been produced specifically for transfer print decoration of "whiteware" porcelain mugs, dye sub coated.

This simple robust machine is powered by a microprocessor digital controller for control of both heat and dwell accuracy and ease of operation, requiring minimal operating space.

The Studio 'EZ'-5 Station Multi Mug Press is produced in one version, nominally 220-240 Volts AC for the European market

1.1 Specifications of the Studio 'EZ'-5 Station Multi Mug Press

The Studio 'EZ'-5 Station Multi Mug Press is a manually operated heat press for transfer printing. It is ideal for high volume production.

The heating elements supplied with the Studio 'EZ'-5 Station Multi Mug Press are suitable for:

- Large Standard 11oz, 15oz or 10oz mug which accommodates $\text{Ø}75\text{-}90$ mm ($\text{Ø}29.5\text{-}35.5$ in) mug
- Small Standard 6oz, 9oz or 10oz mug which accommodates $\text{Ø}60\text{-}75$ mm ($\text{Ø}23.5\text{-}29.5$ in) mug

Specifications

Power consumption	1500 Watts
Power supply	220 Volts AC
Maximum working temperature	225°C (437°F)
Display timer range	0 - 450 sec \pm 0.5%
Machine height open	36.5 cm (14 in)
Machine width	82 cm (32 in)
Machine depth	28.5 cm (11 in)
Size export packed	45(L) x 93(W) x 37(H) cm (18(L)x 36.5(W)x 14.5(H)in)
Net weight	23.5 kg. (52 lbs.)
Weight export packed	29 kg. (64 lbs.)
Fuse	15 A

Supplied Heating Elements:

Large Standard mug element	$\text{Ø}75\text{-}90$ mm ($\text{Ø}29.5\text{-}35.5$ in) mug
Small Standard mug element	$\text{Ø}60\text{-}75$ mm ($\text{Ø}23.5\text{-}29.5$ in) mug

1.2 Safety

- ◆ **Our customer service department** has its own service engineers and, if required, maintenance and advice is available.
- ◆ **The Studio 'EZ'-5 Station Multi Mug Press** meets the European Legislation standard. Under normal conditions accidents are rare. However listed below are some practical points to ensure your safety.
 - **Always switch off** the mains supply (and pull plug out of the socket) when undertaking maintenance work or when cleaning the machine.
 - **Keep other people** away from the machine during use.
 - **Ensure that there is** sufficient space around the machine. Cables and connections must not get jammed. Although the heat radiation of the press is low, there should be enough space for cooling down.
 - **Avoid contact** with the press element.
- ◆ **DO NOT REMOVE THE COVER OR CONTROLLER UNLESS QUALIFIED TO DO SO** - touching internal parts is dangerous and may cause shock hazard. All electrical connections inside covers are live. Never operate Press with any covers and/or guards removed.
- ◆ **PROTECT THE MAINS CABLE** - Damage to the mains cable may cause fire or shock hazard. When unplugging, hold by the plug only and remove carefully. Take care that the mains cable does not come into contact with the heater element (or moving parts of the mechanism) during operation of the machine.
- ◆ **OPERATING AMBIENT TEMPERATURE RANGE** - the operating ambient temperature range is 32°F - 104°F, (0°C - 35°C) and humidity of 20 - 80%.
- ◆ **MACHINE FUSE** - 15 Amps.
- ◆ **WARNING - THIS APPARATUS MUST BE EARTHED (GROUNDED)**
- ◆ **CAUTION**
This machine gets hot whilst operating. Take care not to touch any surfaces that are labelled "Caution HOT". **Keep hands away from heating elements.**
- ◆ **MACHINE OPERATION**
Only persons trained to do so should operate this machine.

This machine is designed to be operated by one operator only.

Safety (Cont.)

- ◆ The press should remain in the unclamped position when not in use. When in use, **NEVER** close the machine into the clamped position without inserting a mug as this will destroy the heating element and negate the warranty.
- ◆ **Contact** your print media suppliers to ascertain whether fumes are given off during the transfer process and if so what precautions are needed for operator safety. These may include **air extraction** and/or masks for personnel.

Please refer to page 12 for an illustration of the Studio 'EZ'-5 Station Multi Mug Press machine.

2. Installation

2.1 Transport instructions

The machine comes to you in a box or shrink-wrapped. If you have to transport the machine at any time it is recommended that you use a similar box and packing methods. Please let the machine cool down and move the handle to the locked position, with a mug clamped in printing position *before* shipping.

2.2 Installing the machine

- 2.2.1 **Remove all** packaging from the heat press.
- 2.2.2 **Check to ensure** that no damage has been caused to the machine during transit.
- 2.2.3 **Place the machine** on a sturdy horizontal surface that is within easy reach of the operator and allow space for the handle to move to the loading position. Ensure that no items vulnerable to heat radiation are too close to the machine.

2.3 Electrical requirements

The Studio 'EZ'-5 Station Multi Mug Press should be connected to the mains supply, (nominally 220V AC), by the mains cable provided and a suitable plug.

The press is designed for 220Volts AC 50/60 hertz and requires exclusive use of a power outlet rated for at least 7 Amps.

Ensure that the supply rating on the machine specification plate corresponds with your local supply and that the correct plug is fitted.

2.3A Wiring the plug for a 220V AC Machine

The wires in this mains lead are coloured in accordance with the following code:

Green and Yellow:	EARTH
Blue:	NEUTRAL
Brown:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:-

Electrical requirements (Cont.)

1. **The wire coloured green and yellow** must be connected to the terminal in the plug, which is marked by the letter E, or by the safety earth symbol coloured green, or green and yellow.
2. **The wire, coloured blue** must be connected to the terminal which is marked with the letter N, or coloured black.
3. **The wire, coloured brown** must be connected to the terminal which is marked with the letter L, or coloured red.

NOTE:

A competent service engineer must carry out any replacement of the mains cable.

HEATING ELEMENT

The heating elements fitted to this press are rated at 1500Watts / 220V AC.

Never connect to any outlet or power supply having a different voltage/frequency from that on the machine data plate.

2.4 Adjusting the pressure

This press is fitted with a black pressure adjustment screw located close to the heating element:

- a) **To increase pressure** or to use smaller diameter mugs turn knob anticlockwise (within the stated range).
- b) **To decrease pressure** or to print onto larger diameter mugs, (within the stated range), turn the adjustment knob clockwise.
- c) Be careful when placing mug in press that pressure jaws are not in contact with Mug handle as this may cause damage.

NOTE

DO NOT adjust the pressure when the machine is clamped shut

CAUTION

Never increase the pressure to the extent of requiring undue force to lower the operating handle into the lock position, as this will place excessive stress on the heater band, resulting in damage to the press.

Please refer to page 13 showing the operation of the control unit.

3. How to Operate the Studio 'EZ'-5 Station Multi Mug Press

3.1 Starting with the Studio 'EZ'-5 Station Multi Mug Press

3.1.1 Plug into your supply outlet and switch supply on.

N.B. Please ensure the mains plug is easily accessible to the operator so that in the event of a fault the machine can be unplugged.

3.1.2 Turn on the Studio 'EZ'-5 Station Multi Mug Press; firstly using the main on/off rocker switch which is located at the rear of the machine cover (this illuminates when “on”). Secondly turn on the individual on/off rocker switch(s) located immediately at the front of the mug heating element(s) that you intend to use (these also illuminate when “on”). Thirdly set the individual heating element(s) controls that you intend to use as necessary. See instructions for adjusting the pressure **2.4**, and the operation of time/temperature unit(s) **page 13**.

3.2 Working with Heat Transfer Materials

First ascertain from the supplier of the mugs that they are suitable for transfer printing and obtain from them and from the transfer supplier the correct heat and time dwell setting for the process. Always check for use. ‘Hot’ or ‘Cold’ peel transfers approximate settings may be as follows:

3.2.1 Adjust the pressure setting of the machine by rotating the adjusting knob situated near the heating element(s) you intend to use, (See exploded diagram in this manual). Anticlockwise for more pressure, clockwise for less pressure. It is always best to find the most suitable opening before using the transfers in production. Adjust the position of the Silicone Heating Element, place transfer and mug into machine, positioning it as required. Make any final adjustments using the pressure setting.

3.2.2 From a cold start-up allow the press to heat up to the desired temperature. Insert a plain mug(s) into the press and close the handle(s). The mug will absorb a large amount of heat and the temperature will drop, but the element(s) will climb to set temperature within a short time. It is normal for the displayed temperature on the controller(s) to fall by up to 30°C very quickly when a cold mug is placed into the press; however the element is designed to recover up to the set temperature very quickly.

Working with Heat Transfer Materials (Cont.)

- 3.2.3** When the temperature indicator(s) on the controller(s) reach(es) the set value, the machine is ready to print. Remove the plain mug(s) then place the print mug(s) in position in the press. When you are satisfied that the mug(s) is/are in the correct position, gently close the press with the handle, taking care that the machine jaws do not catch on the mug handle. When the handle is closed the machine will start the pressing cycle. The handle(s) must be in the locked position ensuring that the work is fully clamped.
- 3.2.4** To achieve a good transfer result the transfer paper should be placed in the desired position on the mug(s), securing in place with heat proof adhesive tape and removing all wrinkles. Ensure there is sufficient pressure on the mug(s) for good results. Set the pressure adjustment so that there is good contact with the mug(s).
- 3.2.5** When the pre-set dwell time has been reached, a buzzer will sound. The mug(s) should then be released and then carefully taken out of the pressing pad(s) (**it will be very hot**) and the transfer very carefully removed.
- 3.2.6** Please refer to transfer printer's instructions, as in some cases it is recommended you place the mug in a bowl of cold water before removing transfer paper.

3.3 Studio 'EZ'-5 Station Multi Mug Press Operating Recommendations

- 3.3.1** This machine has been designed to accommodate a mug of 75-90 mm diameter with the large standard mug element and 60-75 mm with the small standard mug element; anything outside these dimensions could affect the performance of the heating element(s) and negate the warranty period.
- 3.3.2** When using small mugs please ensure that the heating element(s) is not trapped near the mug handle and machine jaws.
- 3.3.3** The heating element(s) has/have a 12 months warranty provided that it/they has been operated in the correct manner and not subjected to misuse.
- 3.3.4** **Pressure:** We recommend using medium pressure settings only. (Check with transfer supplier for advice etc.).
- 3.3.5** **Temperature:** We recommend that you check with both the Mug and Transfer supplier to obtain the correct settings.

It is a simple operation to change the heating element and full instructions are given on page 9 (section 3.4).

3.4 Removal & Refitting of Element(s) in Studio 'EZ'-5 Station Multi Mug Press

- 3.4.1 Ensure the machine is cold, switched off and disconnected from the power supply.
- 3.4.2 Unscrew the element(s) connector lead(s) attached to the individual heating element(s).
- 3.4.3 Very carefully remove the element(s) from the machine by unscrewing the two hand screws on each side of the jaws.
- 3.4.4 Gently ease out the cable.
- 3.4.5 Refitting is a direct reversal of removal. When refitting the element(s) gently place the element(s) into the press housing and refit the two hand screws to each side of the jaws, this will then hold the element(s) in its/their correct setting.
- 3.4.6 Reconnect the connector(s) by tightening the lead(s), check that the connection(s) is/are tight.
- 3.4.7 Your Studio 'EZ'-5 Station Multi Mug Press should now be ready for use.

3.5 Heater Band(s) Assembly

The heater band(s) fitted to this machine is/are faced with silicone rubber and a piece of P.T.F.E. sheet, to prevent 'strike-through' of surplus ink back onto the heater element(s). The pressing surface must be maintained in good condition at all times. A worn pressing surface(s) will always affect the quality of printing. Do not insert items into the machine, which could damage the printing surface(s).

4. Maintenance of the Machine

4.1 Periodic Maintenance

CHECK that the heating element is clean.

Put a few drops of oil onto the various pivot pins and the pressure adjusting screws every three months.

4.2 Cleaning

Clean the outside of the machine frequently with a clean, moist cloth. This may conveniently be carried out before starting when the machine is cool. First unplug the machine.

CHECK that the heating elements are clean and free to clamp easily during pressing operations.

5. Machine Drawings and Diagrams

On the following pages are the schematic diagrams for the Studio 'EZ'-5 Station Multi Mug Press.

5.1	General Layout.....	Page 12
5.2	Control Unit Operation.....	Page 13
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5.1 General Layout

REVERSE VIEW

INDIVIDUAL PRESSURE ADJUSTER(S)

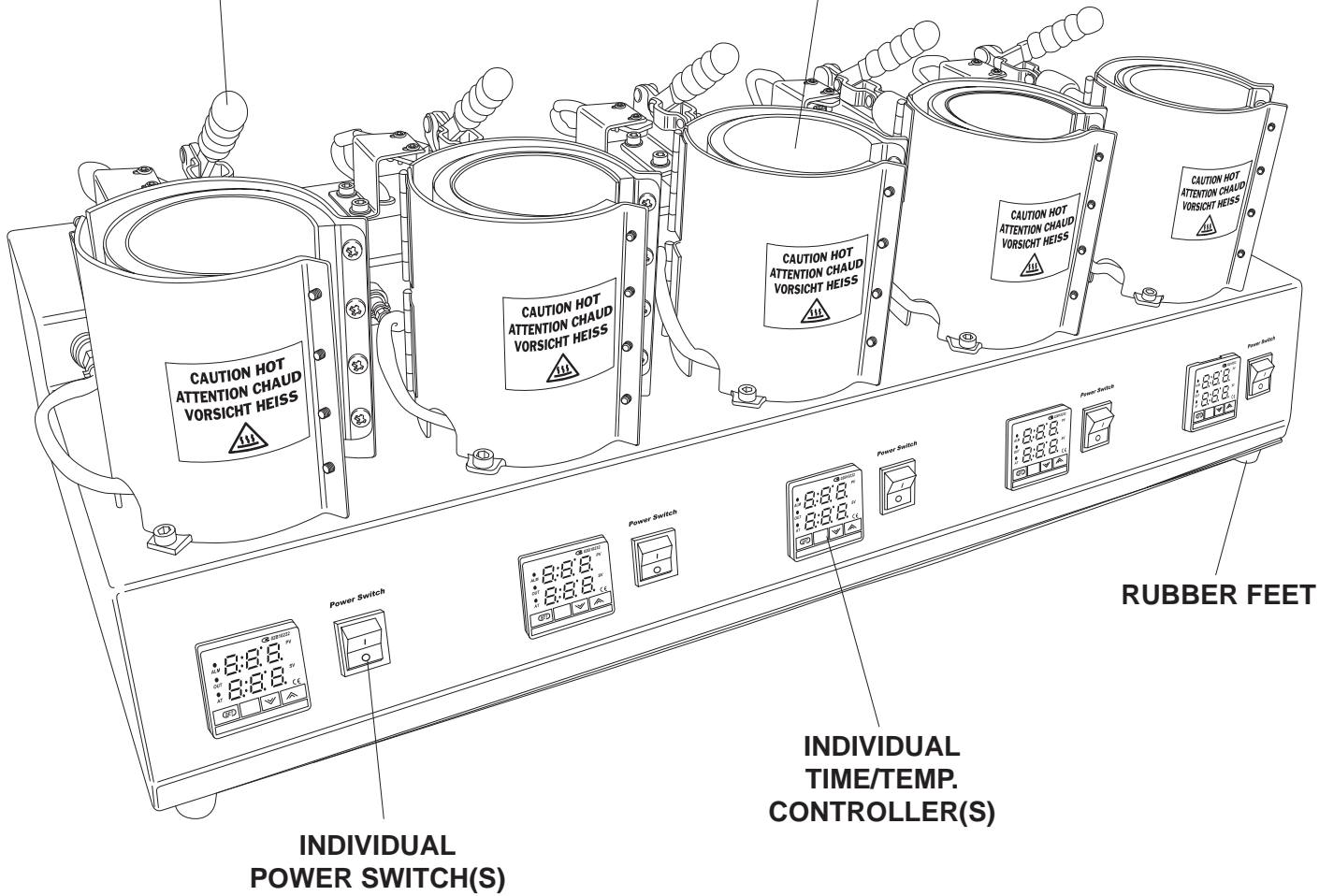
INDIVIDUAL LIMIT SWITCH(ES)

MAIN POWER SWITCH

MAIN POWER INLET AND MACHINE FUSE

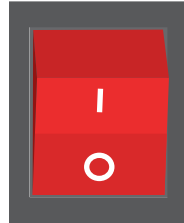
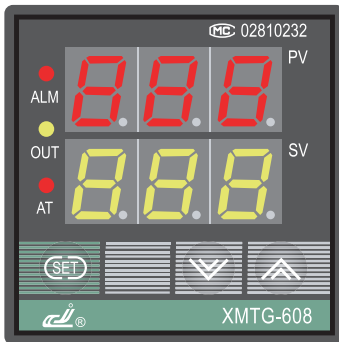
INDIVIDUAL MACHINE OPERATING HANDLE(S)

INDIVIDUAL MUG HEATING ELEMENT(S)







5.2 Control Unit Operation (Setting Temperature and Time)

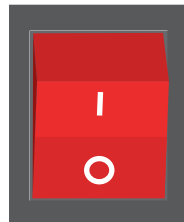
The head must always be in the up position before the controller is set







Setting Temperature

1. Switch on machine using Main Power Switch (at rear of machine), then switch on Individual Heating Element using Individual Power Switch.
2. Press and hold “” until “sp” appears in the top screen and the set temperature in the bottom screen.
3. Using the “” and “” buttons select the required temperature.
4. Press the “” button to hold the new temperature.


N.B. Set temperature needs to be reached before timer will operate.



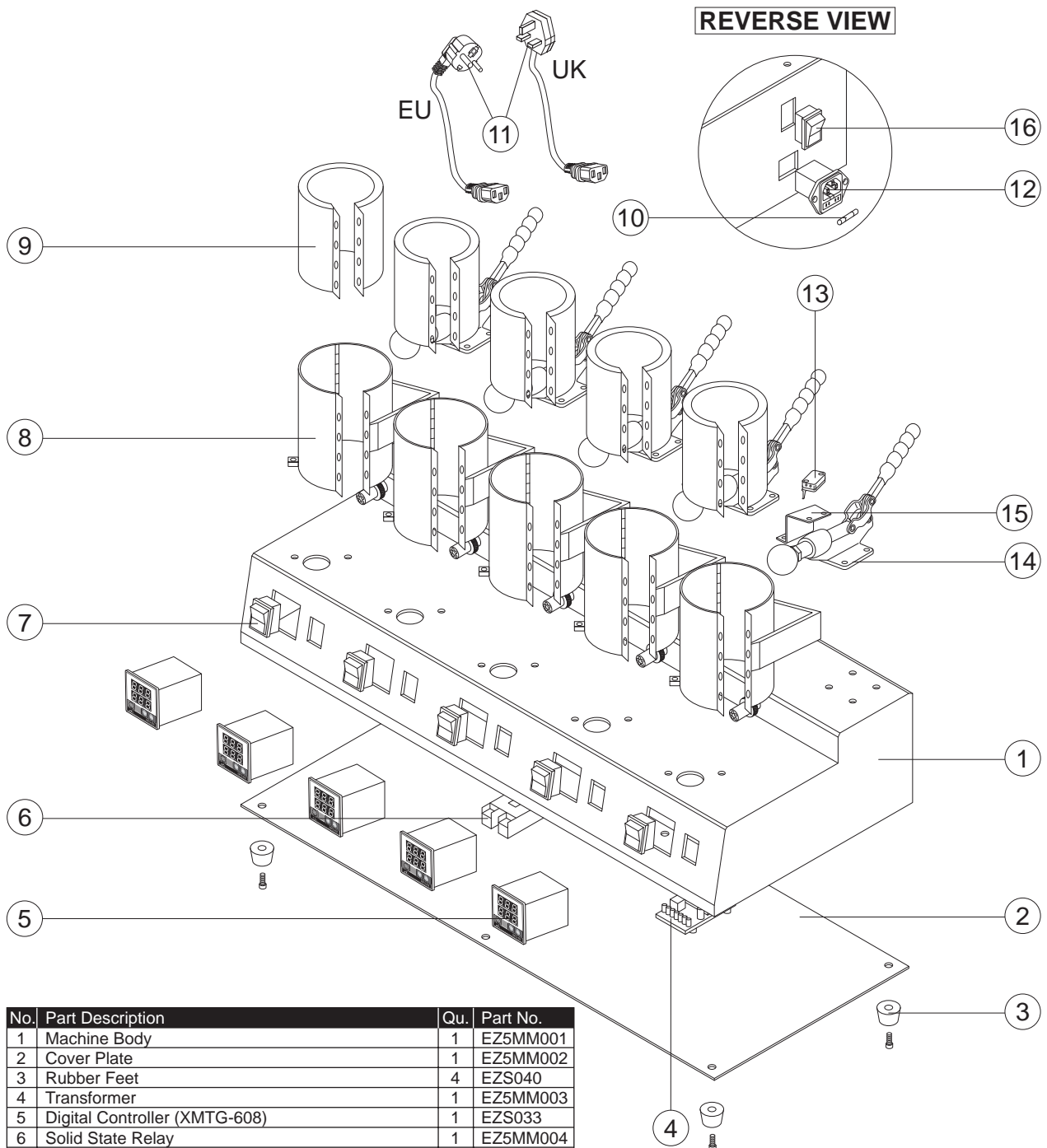
Setting Time

1. Switch on machine using Main Power Switch (at rear of machine), then switch on Individual Heating Element using Individual Power Switch.
2. Press and hold “” until “te” appears in the top screen and the set time in the bottom screen.
3. Using the “” and “” buttons select the required time.
4. Press the “” button to hold the new time.



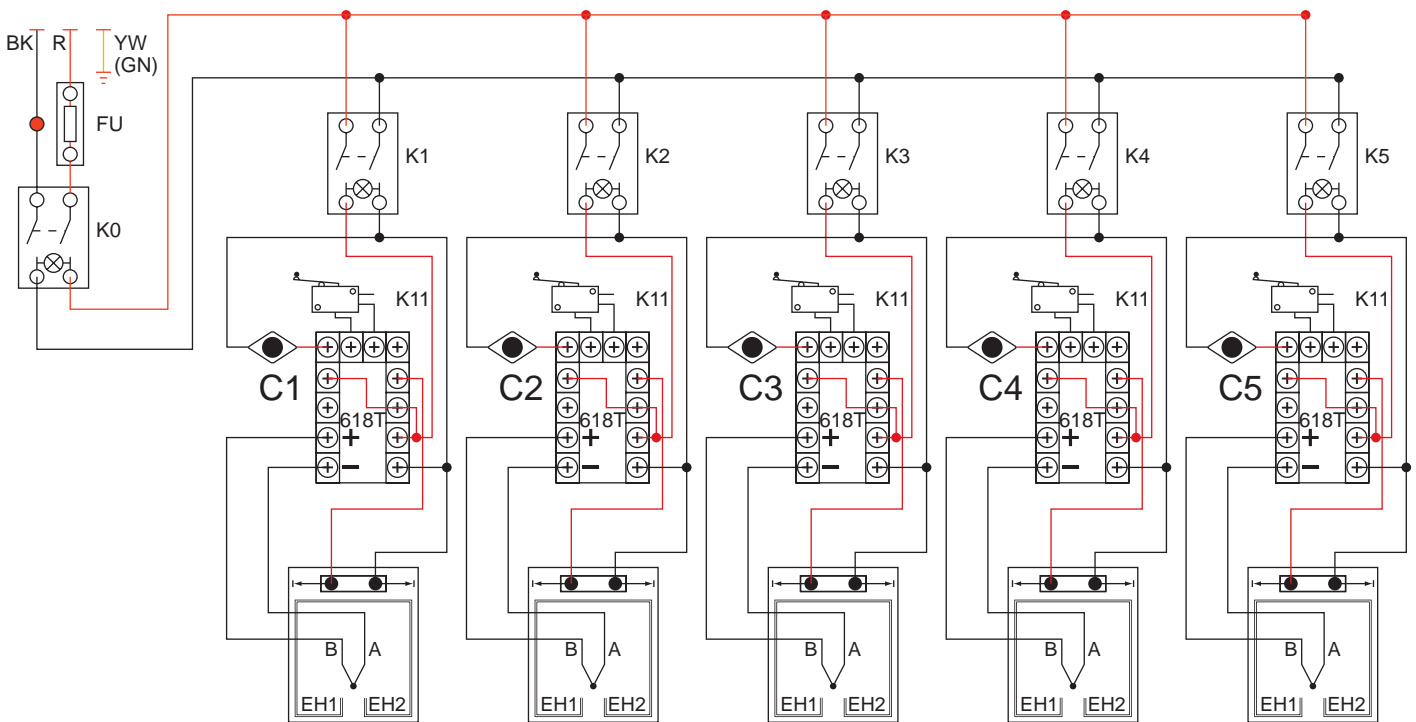
Do not press and hold “” button for more than 4 seconds

5.3 Exploded Diagram and Parts List



No.	Part Description	Qu.	Part No.
1	Machine Body	1	EZ5MM001
2	Cover Plate	1	EZ5MM002
3	Rubber Feet	4	EZS040
4	Transformer	1	EZ5MM003
5	Digital Controller (XMTG-608)	1	EZS033
6	Solid State Relay	1	EZ5MM004
7	Individual Power Switch(s)	5	EZ5MM005
8	Individual Mug Element Holder(s)	5	EZ5MM006
9	Individual Mug Element(s)	5	EZ5MM007
10	Machine Fuse (15 Amp)	1	EZ5MM008
11	Mains Lead and Plug 230 V (UK)	1	BME621
	Mains Lead and Plug 230 V (EU)	1	BME622
12	Filter Fuse Unit	1	EZ5MM009
13	Individual Micro Switch(es)	5	EZ5MM010
14	Individual Clamping Arm and Bracket Assembly(ies)	5	EZ5MM011
15	Individual Micro Switch Support Arm(s)	5	EZ5MM012
16	Main Power Switch	1	EZ5MM013

5.4 Machine Electrical Schematic



Key:

K0: Power Switch
 EH1 EH2: Heating Pipe
 C1-C5: Buzzer

K11-15: Individual Limit
 K1-5: Individual Power Switch
 A(B): Thermocouple

FU: Fuse
 618T: Digital Controller

6. Design Change

With the policy of constant improvement and/or modification to meet changing conditions, the right is reserved to change the design and/or specifications at any time without prior notification, and therefore specifications may vary and not be in accordance with this manual.

7. Guarantee (Limited Warranty)

A. Adkins & Sons Limited warrants that the press is free from defects in material and workmanship for a period of 12 months from the date of supply to the customer. The machine comes with a one-year warranty on parts and 90 days labour and a 6 month warranty on heating elements.

This warranty covers all parts to repair the defects, except when damage results from misuse or abuse, accident, alteration or negligence or when a machine has been improperly installed.

If a press covered by warranty should need to be returned to the factory for examination and repair, if on-site component replacement is not possible, A. Adkins & Sons Limited will make every effort to repair the customers press. The warranty will only be effective when A. Adkins & Sons Limited authorises the original purchaser to return the machine to the factory and only when the product upon examination has proven to be defective.

Should in our opinion any part of this press be defective in materials or workmanship, it will be replaced or repaired free of charge, provided that the press has been installed and operated in the correct manner and not subjected to misuse. If A. Adkins & Sons Limited authorise a replacement press, the warranty of the replacement press shall expire on the anniversary date of the original machines invoice to the customer.

In order for this warranty to be effective, no return of machine or parts may be made without prior factory authorisation. (This will exclude any travelling and/or carriage costs which will be charged at our discretion).

This is the sole warranty given by the company; there are no warranties, which extend beyond the description on the face hereof. The seller disclaims any implied warranty of merchantability and/or any implied warranty of fitness for a particular purpose; the buyer agrees that the goods are sold "as is". A. Adkins & Sons Limited does not warrant that the functions of the press will meet the customer's requirements or expectations. The entire risk as to use, quality and performance of the press lies with the customer. (No claim of any kind shall be greater than the sale price of the product or part to which the claim is made).

In no event will A. Adkins & Sons Limited be liable for any injury, loss or damage, including loss of profits, destruction of goods or any special, incidental, consequential or indirect damages arising from the use of the press or accompanying materials. This limitation will apply even if A. Adkins & Sons Limited or its authorised agent had been advised of the possibility of such damage.

A. ADKINS & SONS LIMITED
DECLARATION OF CONFORMITY



<p>Application of Council Directives:</p> <p>Standards to which Conformity is Declared:</p>	<p>Machinery, Low Voltage. E.M.C.</p> <p><u>BS EN ISO 12100-1:2003+A1:2009</u> - Safety of machinery: Basic Technology. <u>BS EN ISO 12100-2:2003</u> - Safety of machinery: Principles of Design. <u>BS EN 60204-1:2006</u> - Safety of machinery: Electrical Equipment of Machines. <u>BS EN 60529:1992</u> - Degrees of protection provided by enclosures. <u>BS EN ISO 13850:2008</u> - Safety of machinery: Emergency Stops. <u>BS EN ISO 141211:2007</u> - Safety of machinery: Principles for Risk Assessment. <u>BS EN 55011:1998</u> - Class A Group 2 equipment - EMC Emissions. <u>BS EN ISO 61000-6-4:2007</u> - EMC Conducted Emissions. <u>BS EN ISO 61000-6-2:2005</u> - EMC Immunity.</p>
<p>Manufacturer's Name:</p>	<p><u>A. Adkins & Sons Limited</u></p>
<p>Manufacturer's Address:</p>	<p>High Cross, 18 Lancaster Road, Hinckley, Leicester, LE10 0AW, United Kingdom.</p>
<p>Type of Equipment:</p>	<p>Studio 'EZ'-5 Station Multi Mug Heat Press</p>
<p>Model Number:</p>	<p>.....</p>
<p>Serial Number:</p>	<p>.....</p>
<p>Year of Manufacture:</p>	<p>.....</p>

I, the undersigned, hereby declare that the equipment specified above conforms to the above directives and standards.

Place: Hinckley, United Kingdom

Signature: 

Date:

Full Name: Marie McMahon
 Position: General Manager