

# Operating & Maintenance Instructions

## R30 Schred Press

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# 1. Introduction

The R30 Schred Press uses heat and pressure to reform plastic granules into usable sheets. The machine can be used on a workbench or freestanding with the optional R30S stand. The machine consists of two high-mass aluminium hotplates, each with temperature control. The upper hotplate is fixed in position, and the lower hotplate can be raised and lowered using a hydraulic pump.

Shredded plastic material is loaded onto a material cassette that is then clamped shut and loaded into the machine. The hydraulic clamp is then used to press the material, forming a usable plastic sheet. After pressing the sheet is allowed to cool and then removed from the cassette.



# 1. Health and Safety Information

## Hot Surfaces

Surfaces of the R30 Schred Press will become hot in use. Heat resistant gloves must always be used when operating the R30 Press. Do not leave the machine unattended while running.

The R30 Schred Press is intended for the pressing of granulated thermoplastic materials. Do not attempt to press materials which may have a flash point below 250°C. Materials being pressed must be clean and dry. Do not press materials which have been washed with any solvent that may have a flash point below 250°C.

If you are in any doubt as to the source and characteristics of a material that you wish to use in the R30 Schred Press, seek advice before loading it into the machine.

## 2. Upon Receipt

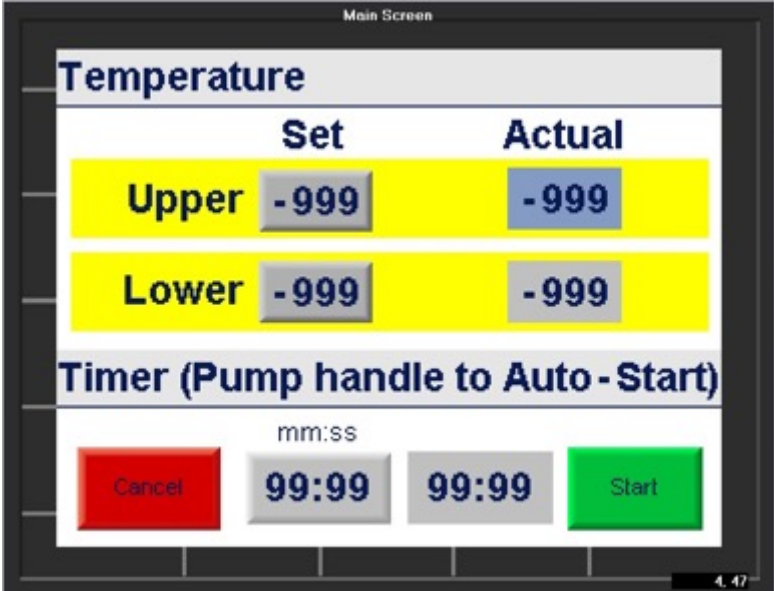
Carefully unpack your R30 Schred Press and check for signs of transit damage. Any damage should be reported to the manufacturer or their local representative within 3 days of receipt.

Position the machine on a suitable workbench, or secure to the optional R30 stand if applicable. The R30 has securing bolt positions, and can be bolted to a workbench if required. This is not essential for safe operation.

Plug the supplied mains lead into the mains inlet on the rear of the machine. Plug the machine into a suitable electrical supply.

### 3. Control Panel Operation

Switch on the machine. The touchscreen display illuminates, and after the initialisation stage comes to the main screen. The available controls are as follows:

<p>Click to set the Temperature of the Upper Hotplate. Range is 0-200 Deg C</p>		<p>Displays the current Temperature of the Upper Hotplate</p>
<p>Click to set the Temperature of the Lower Hotplate. Range is 0-200 Deg C</p>		<p>Displays the current Temperature of the Lower Hotplate</p>
<p>Click to cancel the Timer. The timer also cancels automatically once it has completed a cycle and the audible alarm has sounded</p>		<p>Click to start the Timer. The timer also starts automatically by pumping the Raise lever 3-4 times in succession</p>
<p>Click to adjust the Timer. Timer is set in Minutes and Seconds (mm:ss)</p>		

The front panel of the machine also has the controls for the hydraulic clamp. To clamp material in the press, turn the release knob fully clockwise, then raise and lower the clamping lever repeatedly. To release the clamp, turn the release knob ½ turn anti-clockwise.



**Hydraulic Lever and Release**

## 4. Materials and Settings

The R30 Press is capable of pressing a variety of materials. Suitable times and temperatures are listed in the table below. Please note that the R30 will not fully homogenise the material, and therefore the original colours of the granules will be maintained. To produce a single colour sheet, ensure that the granulated material is not contaminated with other colours. Should you wish to produce a multi-coloured sheet or one with a specific effect or pattern, either place a random colour mix or separate colours as required onto the material cassette.

Material	Time (s)	Temperature-Upper (°C)	Temperature-Lower (°C)
LDPE (Milk Bottles)	600	180	180
HIPS (Vacuum Forming Sheets)	600	200	200
PS (Drinking Cups)	600	200	200
Polypropylene (school chair bases)	600	200	200

## 5. To prepare for use

Switch on the machine, and set the time and temperatures as described in Section 4 above. Place the material cassette onto a work surface, and sprinkle with suitable thermoplastic granules. The granules should be spread in an even layer of approx 4mm thickness, up to the raised lip at the edge.



Secure the latches at the front of the material cassette.



Load the material cassette into the machine.



Turn the release knob fully clockwise to lock the pump.



Pump the clamp lever to raise the lower hotplate. Stop pumping when firm resistance is felt.



The action of pumping the clamp lever will automatically start the timer. The timer can be manually started at any point by pressing the Start button on the touchscreen. Every few minutes, give the clamp lever an additional pump, to ensure that the granules are still under pressure as they soften and fuse.

At the end of the pressing cycle, a short buzzer will indicate that the pressed material is ready to be released. The timer can be cancelled at any point by pressing the Cancel button on the touchscreen.

Turn the release knob anti-clockwise by  $\frac{1}{2}$  turn to lower the hotplate.



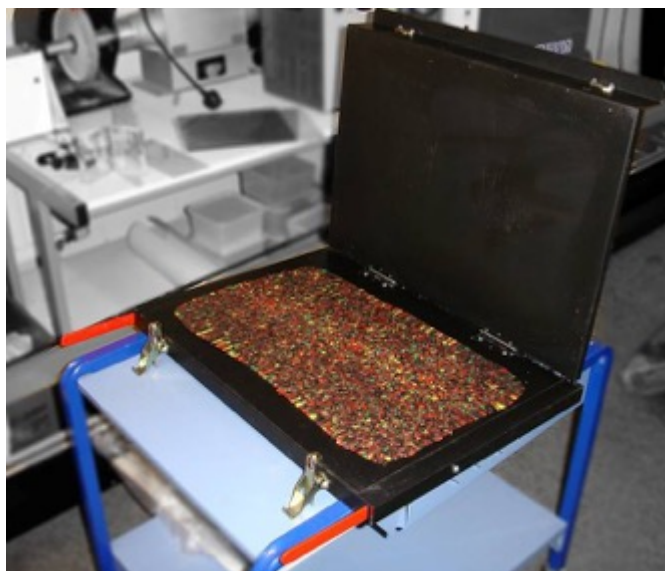
Slide the material cassette out of the machine.



Either place on a flat surface to cool, or slide into the location on the R30S stand (if applicable).



Once cooled, release the clamps and remove the pressed sheet of material.








## **6. Material Cassette Care Instructions**

The material cassette is coated with a high-temperature, non-stick coating. This coating should only be cleaned when cold using a soft cloth. Surplus material will not stick to the cassette, and can be wiped off when it has cooled down.

The handles of the material cassette are designed to slide in when not in use, to avoid protruding from the machine. To lift the material cassette, pull the handles out to their extended position. They will lock as the cassette is lifted.

## 7. Compression Forming Moulds

Compression moulds are made for the R30, including a Frisbee mould along with custom shapes to customer requirements. These moulds follow a similar format and operating procedure, as follows:

<p>Select a suitable granulated material to make your moulded part from. Material from the R25 Schredder is ideal, and we would recommend polystyrene, LDPE or polypropylene (e.g. milk bottles)</p>		
<p>Pour a suitable amount of granules into the female part of the compression mould. When using a Frisbee mould, this is around of the height of the mould cavity. Obviously there is a little bit of trial and error needed to determine the exact volume required, as it will vary depending upon the fine-ness of the granules.</p> <p>If not enough granules are loaded, a partial component will result. Too many granules will result in an over-full mould, and the excess material will ooze out.</p> <p>Evenly spread the granules across the base of the mould.</p> <p>Once a good part is made, weighing this and then weighing subsequent shots of material can be a good way of ensuring consistent quality.</p>		
<p>Place the male half of the mould over the female section. Depending upon the actual design, some moulds will naturally self-align. Those that don't align will have dowels to aid correct alignment of the mould halves.</p>		

Place the filled mould onto the location tray, and load into the R30 as normal. Operate the machine using the usual temperatures, times and techniques.



After pressing, remove the location tray from the R30 Press and allow to cool. Note that these moulds have a high thermal mass, and therefore will stay hot for a long time. To reduce cooling time, placing the complete mould into a container of cold water is very beneficial. It is recommended that a minimum water volume of 10 litres is used for this purpose.

Once the mould has cooled, it can be split using screws in the two threaded holes in the male section, or by carefully using a flat-bladed screwdriver to separate the two parts. Finally, remove the completed part from the mould. Please note that the moulded material will shrink when cooled, which often helps it to release itself from the mould.



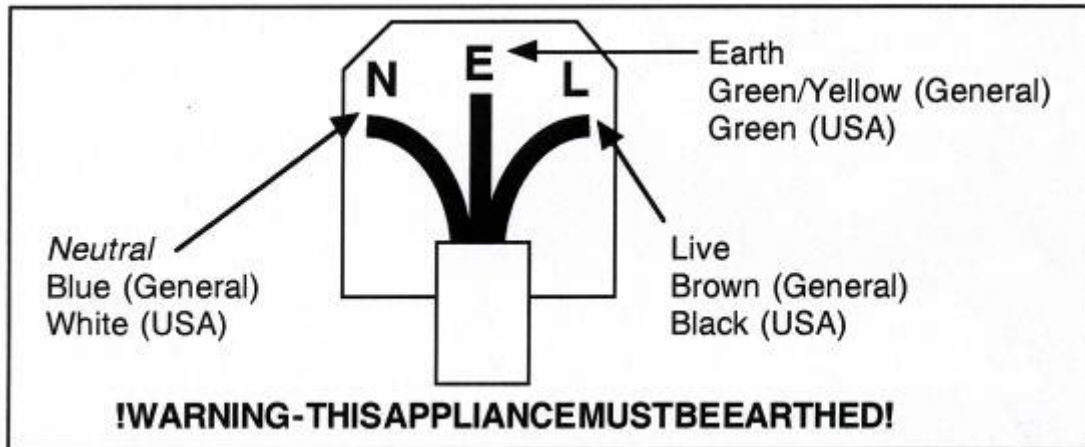
Compression moulds are made from aluminium and are normally uncoated. Please clean with a soft, dry cloth. Excess material that may have stuck to the mould can be gently removed with a plastic scraper. Do not use abrasives or metal scrapers to clean the moulds, as these will damage the mould surfaces.

## 7. Electrical Supply and Connection

**! IMPORTANT!**

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

<b>General</b>	<b>Earth</b>	<b>USA</b>
Green & Yellow		Green
Blue	<b>Neutral</b>	White
Brown	<b>Live (Hot)</b>	Black



### General

The green and yellow wire must be connected to the terminal marked with the letter E, or the earth symbol, or coloured green and yellow or green.

The blue wire must be connected to the terminal marked with the letter N, or coloured blue or white.

The brown wire must be connected to the terminal marked with the letter L, or coloured brown or red.

### USA (115V)

The green wire must be connected to the green pin (the largest).

The white wire must be connected to the silver pin.

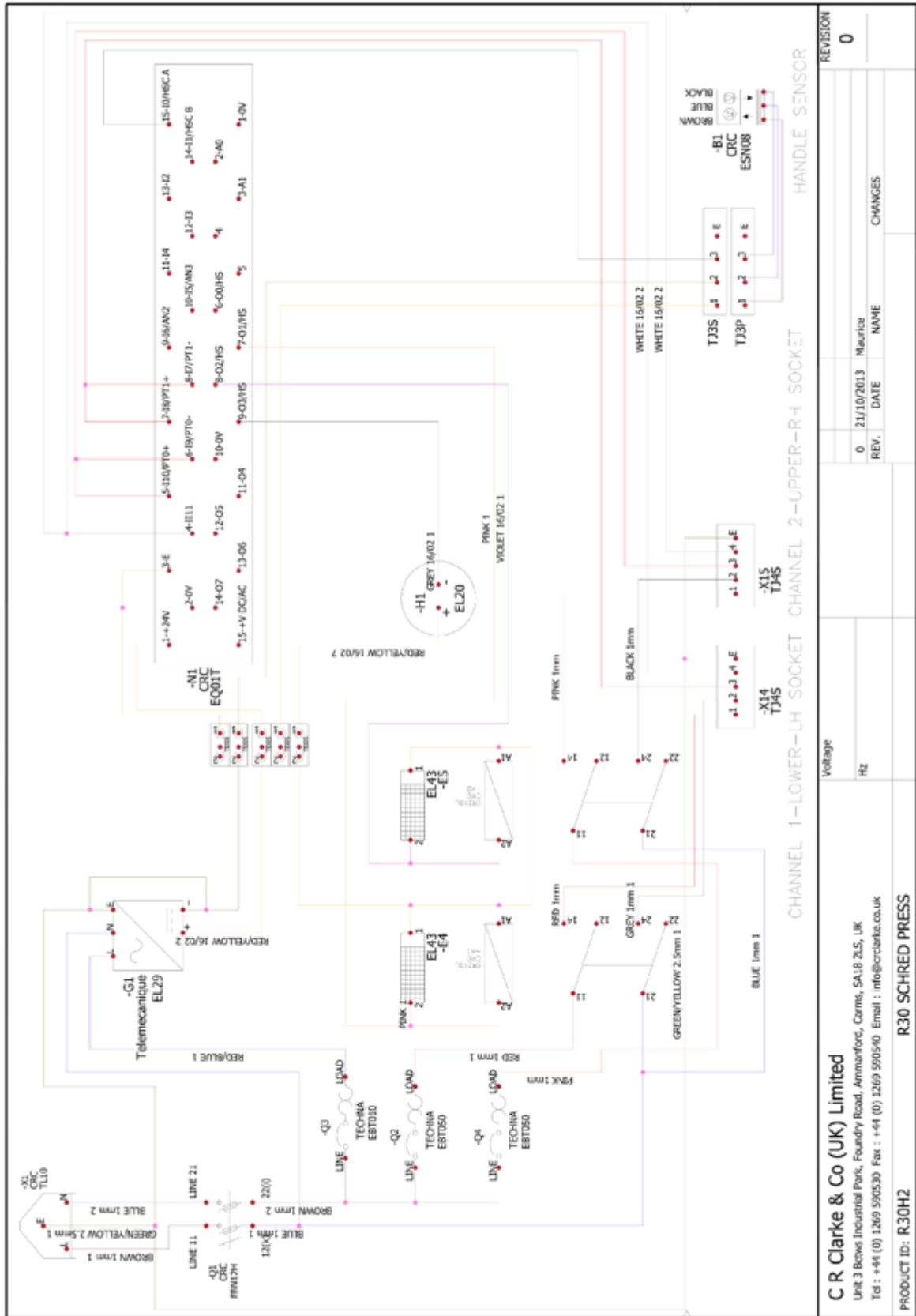
The black wire must be connected to the brass pin.

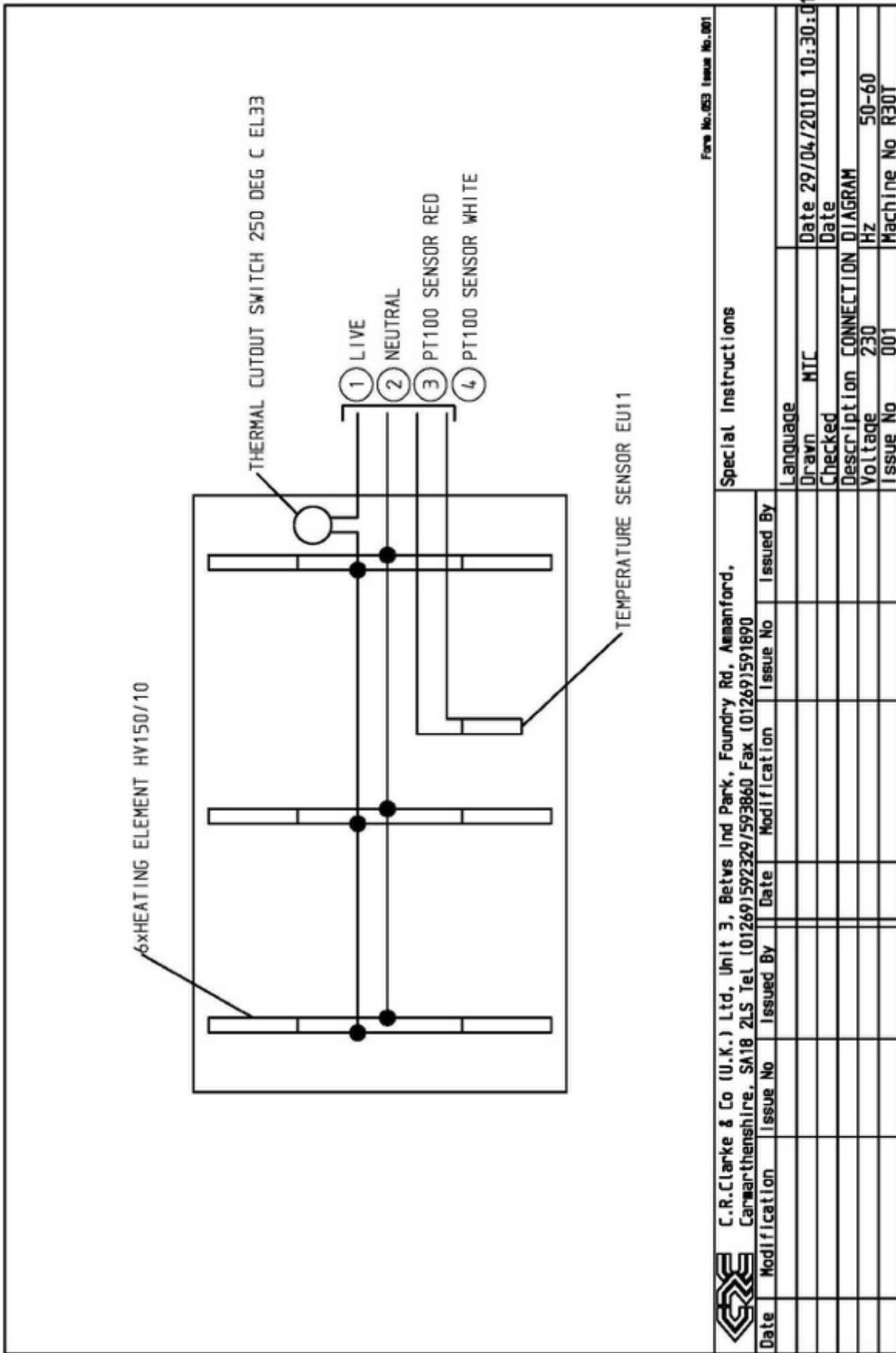


**Warning - read instructions before installation and use.**

**If in doubt about electrical supply or connection refer to your supplier or consult a qualified electrician.**

# 8. Connection Diagrams





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Date	Modification	Issue No	Issued By	Date	Modification	Issue No	Issued By	Language
								Drawn MTC
								Checked
								Date
								Date
								Description CONNECTION DIAGRAM
								Voltage 230
								Hz 50-60
								Issue No 001
								Machine No R30T