



# OPERATION MANUAL

BS EN ISO/IEC 17050-1:2010 Manufactured Equipment

The equipment complies with the following EC Directives:

Machinery Safety Directive 2006/42/EC  
Low Voltage Directive 2014/35/EU  
Electromagnetic Compatibility Directive 2014/30/EU

The following European Standards have been applied:

BS EN ISO 12100:2010; BS EN ISO 13732-1:2008;  
BS EN ISO 14120:2015 and EN 60204-1:2018  
Safety of Electrical Commercial Catering Equipment:  
BS EN 60335-2-36:2002

**And accordingly bears the CE Mark**

The following British Standards have also been applied:

British Standard Code of Practice for Safety of Machinery  
**PD5304:2014**

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# MAGNACOOLER

## OPERATING INSTRUCTIONS

The technical information and pictures in this manual are owned by Magnacool Ltd.

The manual can only be used by Magnacool clients. Any other use is submitted to a written authorisation of Magnacool.

Cooler type: MAGNACOOL 2800/3200/3400

Machine number: **INSERT**

Client: Bakery: **INSERT**

- The operating and maintenance instructions are reserved for the operating technicians, working with the cooler after training by Magnacool.
- Before the machine is brought into operation, the operating and maintenance instructions have to be read.
- If any question, please contact Magnacool.
- The client or user must inform the personnel of the content of the operating instructions and the meaning of the safety symbols.
- Possible damages and/or dysfunctions, due to transport or unloading, have to be registered in a damage report and send immediately to Magnacool by mail, fax or post.
- At the moment of delivery, the client takes responsibility, please check that the delivery documents are present. If not Magnacool must be informed ASAP by any mean, so no parts are missing when building up.

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## 1. Guarantee

The terms of the guarantee of the installation expire when:

- The installation is not maintained regularly and as described.
- The repairs are carried out by a third party without written authorisation of Magnacool.
- The installation is used for products not agreed by Magnacool.
- The installation is performed by unauthorised persons.
- The components are subject to wear.

## 2. Safety Symbols



This symbol warns you of lesion and injuries. Read with great attention the safety rules.



This symbol warns you of electrical tension. Switch of main switch button before.



This symbol warns you about the danger of being jammed in.



This symbol warns you about hot surface. Wearing appropriate gloves is required.

## 2.1. Safety Rules

1. Improper use of the machine can bring damage to man and machine. Therefore, it is important that every operator is well informed about the contents of these operating instructions.
2. The cooler is designed and build for cooling baked products as described in chapter 3.2.
3. In case of emergency or malfunction, the machine can immediately be stopped by pushing the red emergency button on the steering panel.
4. The cooler may not be activated when side panels of inlet and/or outlet side are not in place. Never remove those panels when cooler is still in action.
5. Before carrying any maintenance or repairs, turn off the main switch on the steering panel and close it with a locker, this for the security raisons.
6. The operator must report every change or interruption, which may cause damage.
7. If any question about functioning, the guarantee, maintenance or spare parts, do not hesitate to contact Magnacool.
8. The racks, coming out of the oven, and introduced into the Magnacool are very hot. The use of protecting gloves to move the racks is necessary. Even when the racks are in the cooling tunnel, some parts of the rack can still remain hot.
9. When touching the baked products in the racks, the rack itself and/or the backing trays can be hot. Also, here, the use of gloves is required.
10. Repairs and maintenance may only be carried out by qualified personnel.
11. Never use solvents as a cleaner. Only use prescribed detergents.

### 3. Technical information

#### 3.1. General

The Magnacool is a universal cooler developed, designed and built to cool with ambient air, baked products in the large field of bakery and pastry production.

The products to be cooled are baked on racks, coming out of an oven, direct or indirect, and introduced into the tunnel section.

The lower part of the installation, the tunnel as such, is made of stainless steel 304. The switch box is IP 65.

It is possible to slide out the side panels to have access to the inlet and outlet section, for cleaning and maintenance.

#### 3.2. Field of application

The cooler is suitable for cooling baked products in the large field of bakery and pastry production. Do not use the cooler for other products and/or purposes. The installation is aimed to cool products on racks of different dimensions, depending on the requests of the client.

Example: 600 x 800 x 1800 mm.

#### 3.3. Technical information

Type of cooler:	Magnacool 2800/3200/3400
Machine number :	<b>INSERT</b>
Year of construction:	
Power supply:	400V-3Ph-N-earth – 50 Hz
Drive:	adjustable
Inlet motor:	5, 5 kW – 11 Amps (Per\PH)
Belts:	OPTIBELT – Super X Power M=S – XPZ 1400
Outlet motor:	5,5 kW – 11 Amps (Per\PH)
Belts:	OPTIBELT – Super X Power M=S – XPZ 1400
Electrical dampers:	3 x 0, 2 kW
Total weight:	approx. 2.000 kg
Length:	approx. 2950 mm
Width:	approx. 2360 mm
Height:	approx. 3920 mm
Tunnel inside length:	2790 mm
Tunnel inside width:	1030 mm
Working height:	2000 mm approx.

#### 3.4. The different sections

##### 3.4.1. The inlet sections

- 1 motor with fan 5.5 kW
- 1 manual damper
- 1 plc-controlled damper
- 1 set of filters UVM bags
- 1 pressure meter
- 3 inlet panels
- 1 temperature measurements

### 3.4.2. The outlet sections

- 1 motor with fan 5,5 kW
- 1 manual damper
- 1 plc-controlled damper
- 1 set of filters pack – aero flat
- 3 outlet panels
- 1 temperature measurement
- 1 electrical board with PLC Allen Bradley

### 3.4.3. The recycle section

- 1 plc-controlled damper
- Connection with inlet (left) and outlet (right)
- 1 temperature measurement

## 4. Installation

Before bringing the machine into operation, pay attention to the following points:



### 4.1. The placing

- To guarantee a good function and to prevent failures, it is necessary to build up the machine on a perfect horizontal floor.
- Bring the ducts into position.
- Make sure that all bulbs and screws are tied well.
- Connect the installation to electricity.
- The start up of an inoperative machine can only be carried out by qualified personnel.
- Every user of the cooler has to be informed about the content of the manual, including symbols and safety rules.



### 4.2. Electrical connection

- Power supply: 3 x 400V + N + E – 50 Hz.
- Control: 24V AC
- Electrical potential: 25 A
- Avoid getting in touch with electrical tension!

### 4.3. Electrical motors

- The electrical motors may never be covered with dirt.
- In case of serious pollution, both side sections must be cleaned more frequently.
- Check from time to time if the motors remain clean.
- If not, the dirt has to be removed from the motors.
- To prevent the burning off the motors, first switch off the motors, let them cool down for 15 minutes and only then start cleaning.

## 5. Maintenance

The Magnacool does not require a daily maintenance. But still, to keep the installation in good shape, it is necessary to pay attention to the following points:

- Repairs and maintenance of an inoperative machine may only be carried out by qualified personnel.
- It is important that the cooler is cleaned properly with reference to the hygiene and to the good function of the installation.
- Never open the motor sections; this may only be done by an authorised engineer.

### 5.1. Emergency button

In case of emergency, the cooler can immediately be stopped by pushing the red emergency button on the front panel. After repair of technical failure, for unbolting the emergency button, turn it to the right, after which the button jumps outwards.

### 5.2. Activation of the installation

Check the emergency button and unbolt if necessary.

Start up the cooler by pushing the star (green) button.

Check ambient temperature of the hall and try not to cool lower than this temperature.

Each product has a specific cooling time; respect that time aiming better quality.

See chapter 3.2 concerning the range of products able to cool.

### 5.3. Deactivation of the installation

Let the cooler run till the last product are cooled and out of the tunnel.

Push the “stop” button (red)

Turn off the main switch in position “0”.

## 6. The cleaning

It is important that the cooler is cleaned in the correct way, with reference to the hygiene and to guarantee a good function of the cooler.

Along the products to cool, there can be a variation in pollution of the tunnel, the inlet section and the outlet section. Frequency of cleaning advised: each 4-5 weeks.

### 6.1. Cleaning

1. Turn off the main switch.
2. Remove the side panels of the inlet and outlet side and store them so they can not have any damage, especially the inlet panels.
3. Clean the inlet and outlet section with vacuum cleaner.
4. If dirty, clean the side panels, especially those from the inlet side.
5. Put back in place the side panels.
6. Clean the tunnel with a general detergent, afterwards rinsed with clear water.
7. Tunnel must be completely dry before using again.

## 6.2. Changing the filters

When the filters are dirty, the plc screen will mention it.

Always use the same type of filters as supplied by Magnacool.

Always have a spare set. Call Magnacool.

1. Turn off the main switch.
2. Open the filter sections.
3. Remove the dirty filters.
4. Put in the new set of filters.
5. Make sure the lock system, to hold the filters in place, is secured.
6. Make sure the filter sections are well closed again.

## MANUEL ALLEN BRADLEY PLC

There is a separate description made by Allen Bradley at first.

For the daily use, we give you following information:

- Switch on the Magnacool, by turning the red Main Switch to its vertical position
- The PLC will get loaded, this takes a few minutes
- Do not forget to pull out the emergency stop bottom, if not, the machine cannot start
- Once loaded, the Magnacool logo will appear



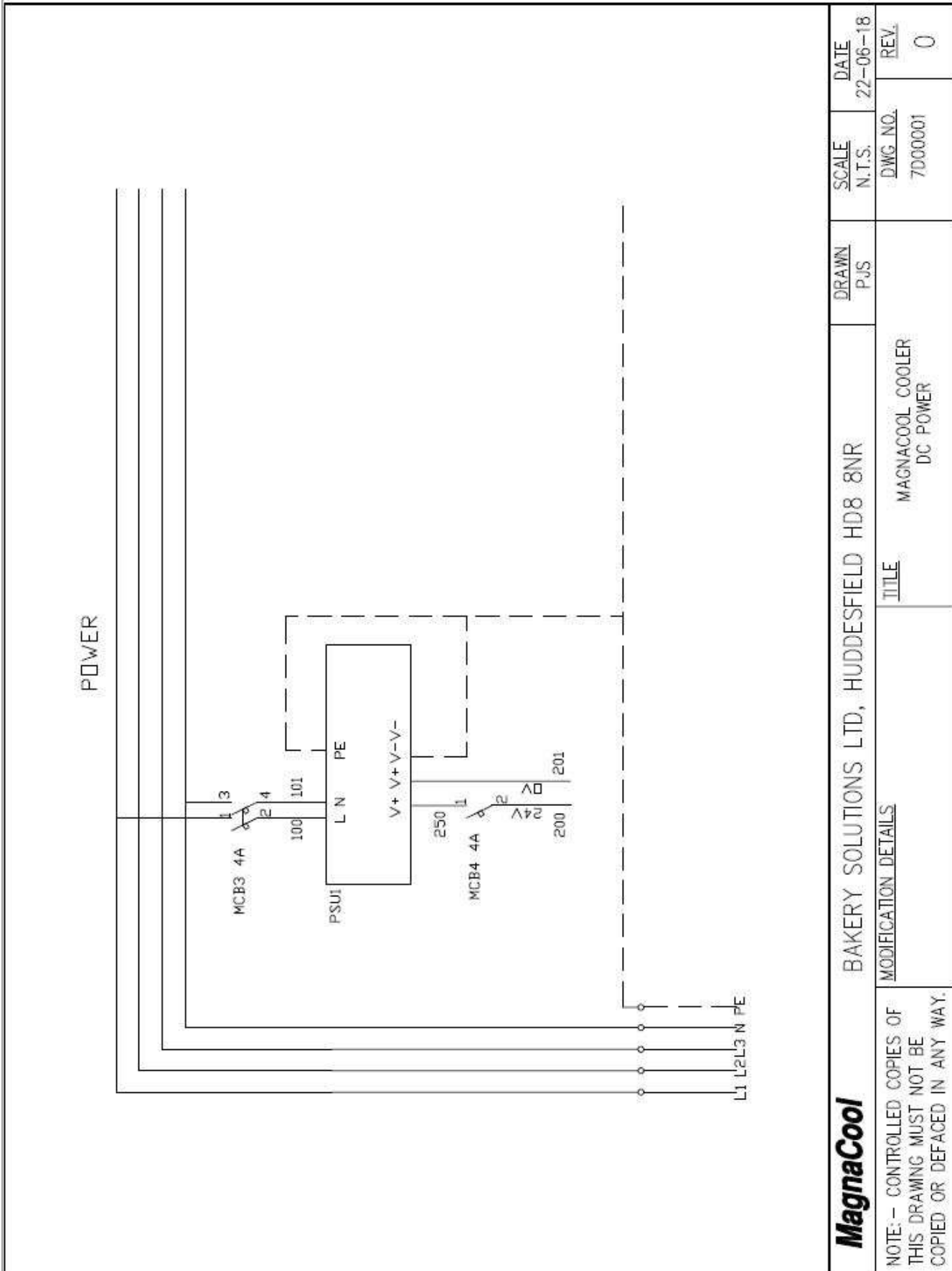




- On the first picture, you see below, the green arrow. Push this arrow to get into the next field.
- By pushing on the biggest green part, you can choose the program you want.
- You enter the product number and confirm it, by pushing on the green bottom
- To change from program number, push the green field with program on it, your program number will appear, by using the blue arrows below, you go up, or down in the numbers of the programs.
- Once you get the program you want, confirm by pushing the green arrow.



- In case a problem appears, you run through your list by using the blue arrow, get down to the first screen, go to alarm list and enter by the green arrow.
- The second screen will appear and indicate you what the problem is.
- In case you do not know how to handle the problem, contact our office and we will help you. Also, if your Magnacool can be connected to internet, we can go into the machine and take over from you. We only have to tell your engineer how to solve the problem, as we can see from distance what to do.
- If you get a warning that you have to change your filters, do it within the 30 days. After 30 days your machine will stop automatically, when filters haven't been changed. We advise to keep a spare set of filters on stock, at all time.



**MagnaCool**

BAKERY SOLUTIONS LTD, HUDDSFIELD HD8 8NR

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MODIFICATION DETAILS

TITLE  
MAGNACOOOL COOLER  
DC POWER

DRAWN  
PJS

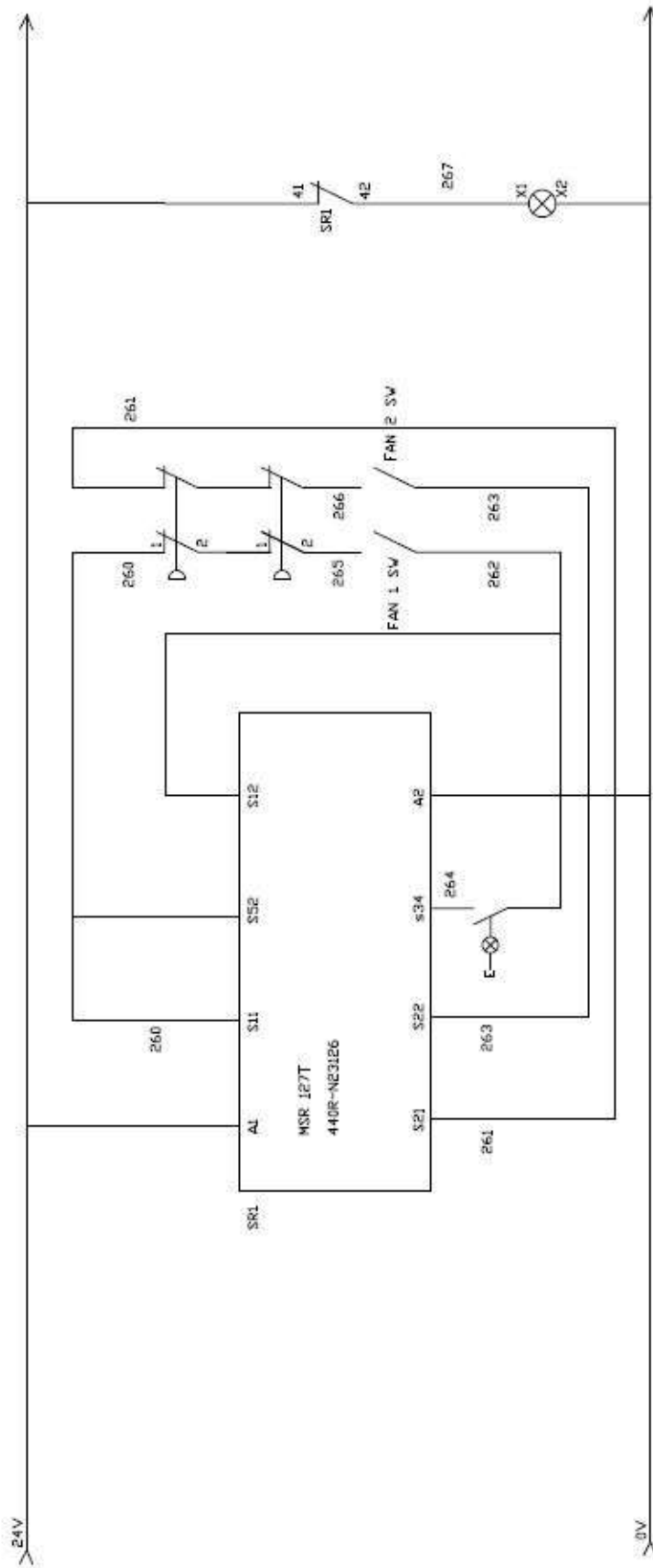
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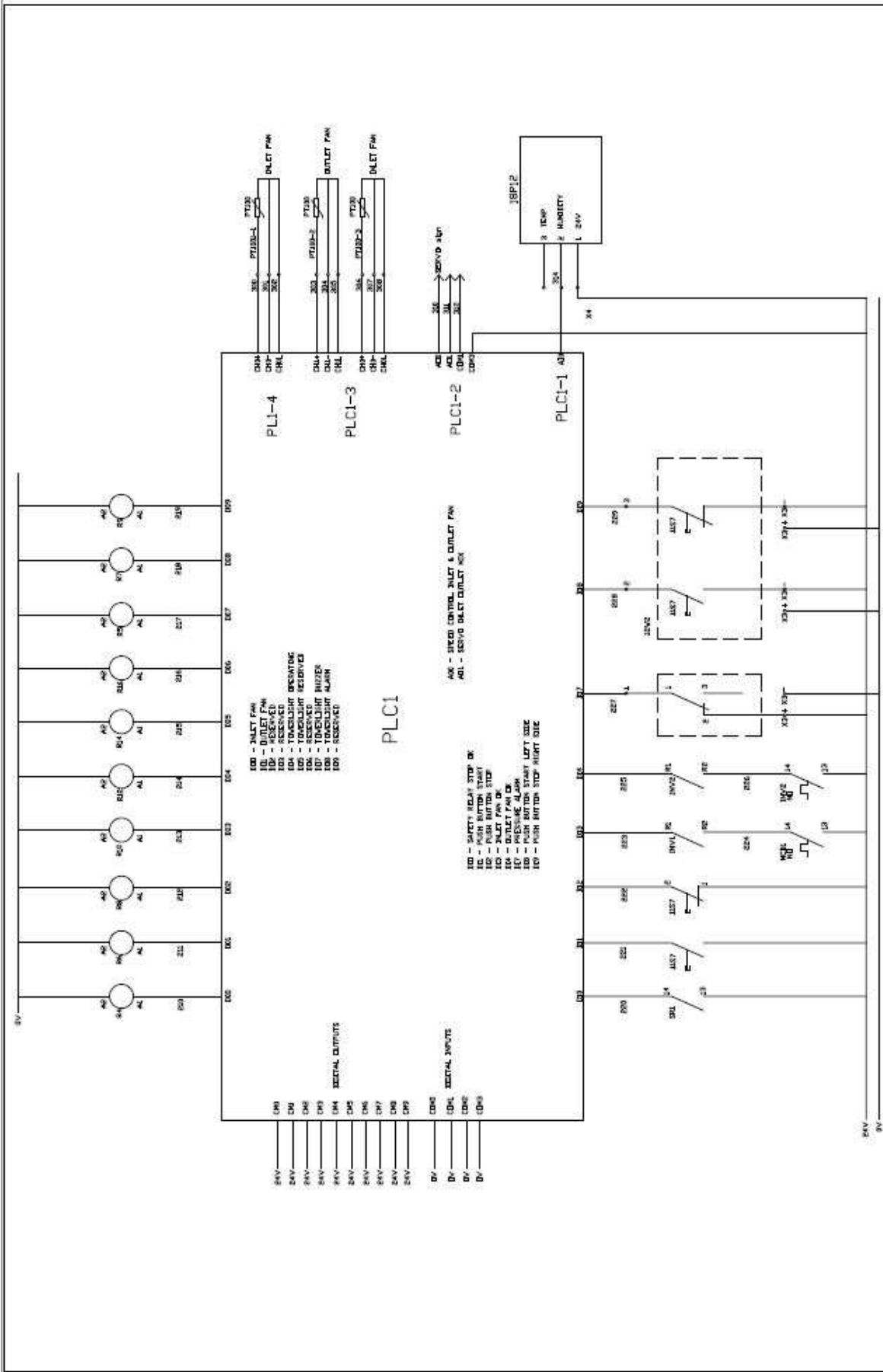
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22-06-18

REV.  
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SAFETY RELAY

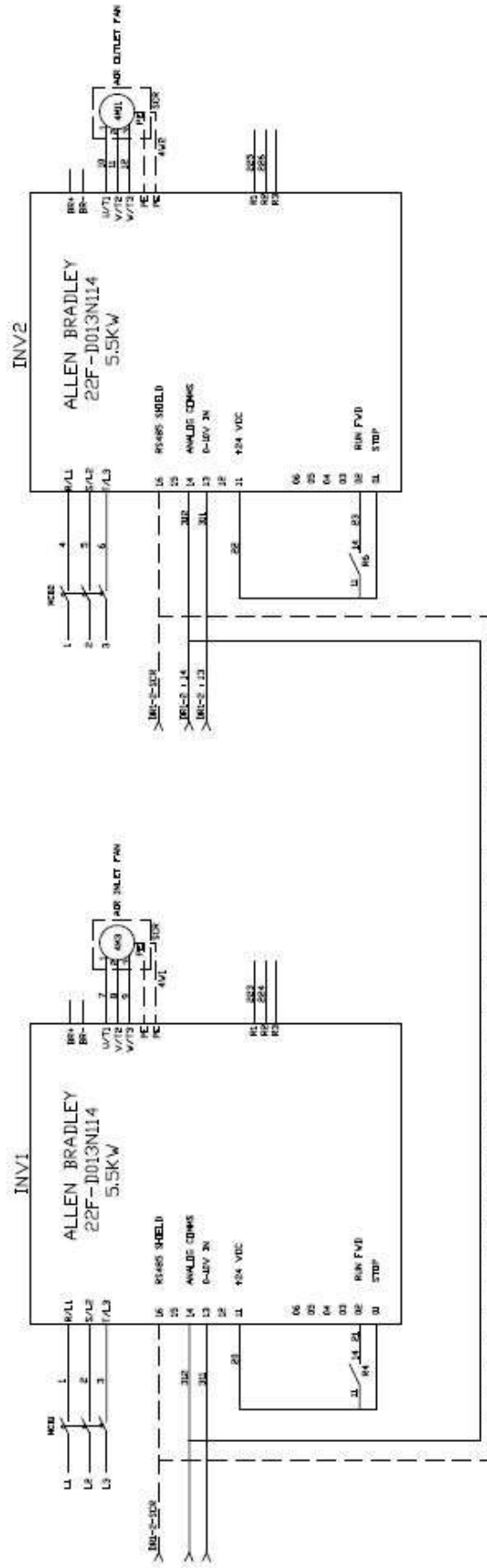


<b>MagnaCool</b>	BAKERY SOLUTIONS LTD, HUDDERSFIELD HD8 8NR	DRAWN PJS	SCALE N.T.S.	DATE 22-06-18
MODIFICATION DETAILS		TITLE MAGNACOOOL COOLER SAFETY RELAY		
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<b>MagnaCool</b> BAKERY SOLUTIONS LTD, HUDDSFIELD HD8 8NR MODIFICATION DETAILS	DRAWN PJS	SCALE N.T.S.	DATE 22-06-18
	TITLE MAGNACOOOL COOLER PLC	DWG NO. 7D00021	REV. 0
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INVERTERS



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22-06-18

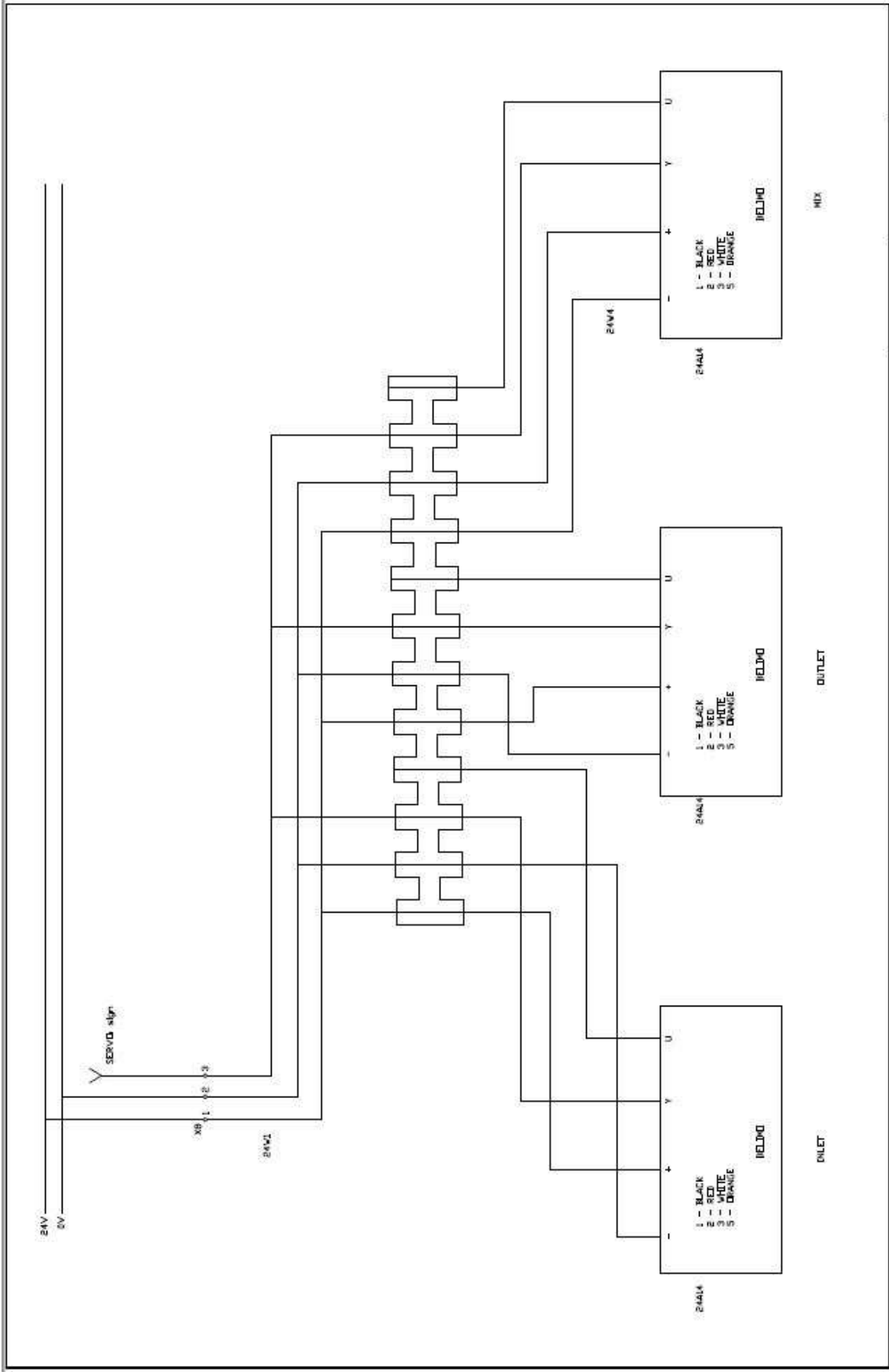
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MAGNACOOOL COOLER  
INVERTERS

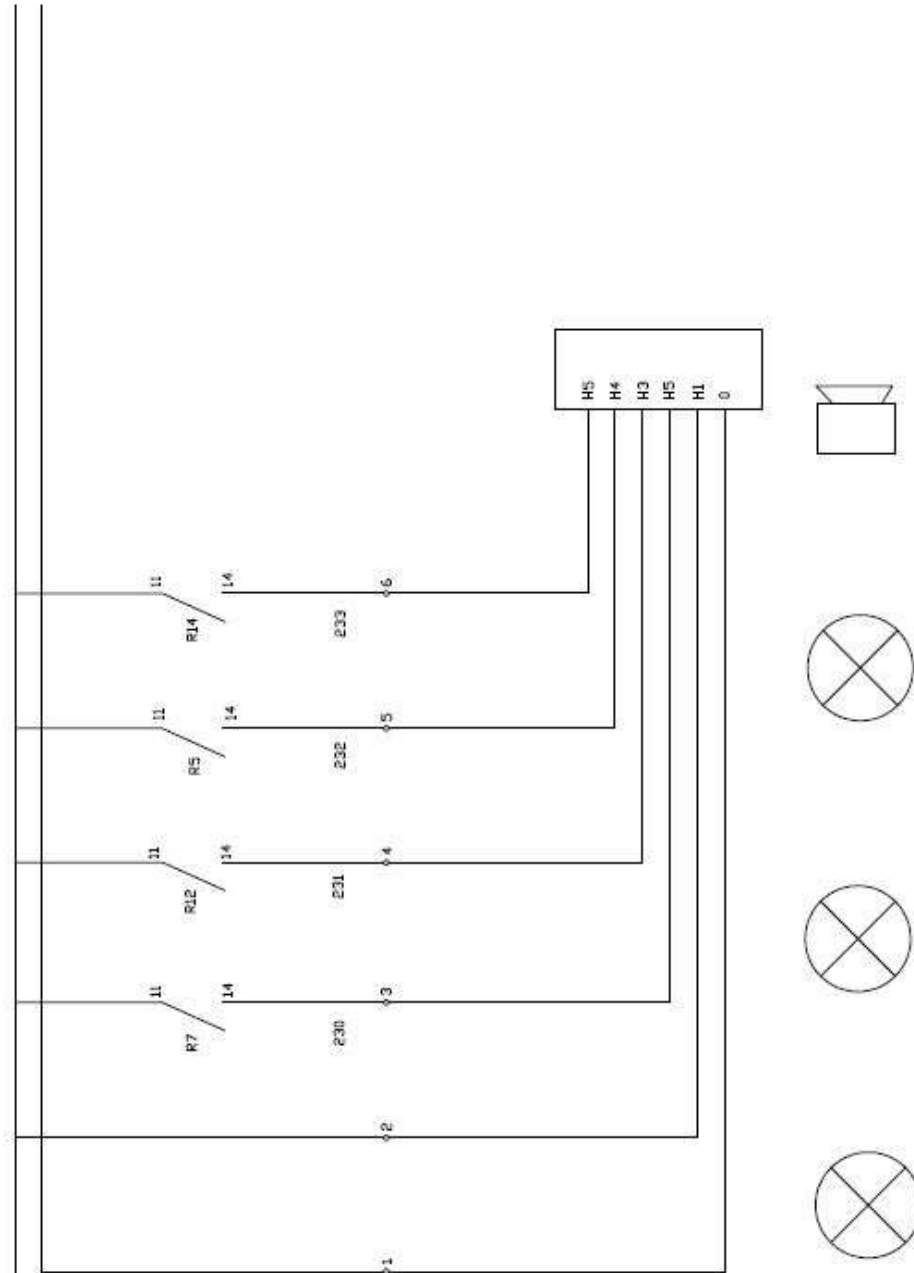
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<b>MagnaCool</b> NOTE: - CONTROLLED COPIES OF THIS DRAWING MUST NOT BE COPIED OR DEFACED IN ANY WAY.	MODIFICATION DETAILS TITLE MAGNACOOOL COOLER DAMPERS	DRAWN PJS	SCALE N.T.S.	DATE 22-06-18
	BAKERY SOLUTIONS LTD, HUDDSFIELD HD8 8NR	DWG. NO. 7D00041	REV. 0	



POWER ON      ALARM      UNIT OPERATING      BUZZER  
 RED              ORANGE              GREEN

<b>MagnaCool</b>	BAKERY SOLUTIONS LTD, HUDESFIELD HD8 8NR		DRAWN PJS	SCALE N.T.S.	DATE 22-06-18
	MODIFICATION DETAILS		TITLE MAGNACOOOL COOLER TOWER BEACON	DWG NO. 7D00061	REV. 0
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