



# OPERATING MANUAL for WILLIAMS DOUGH RETARDER / PROVER WITH DOUGHMASTER CONTROLLER

This manual covers the Installation, Operation, Routine Maintenance and Cleaning requirements for a Williams Retarder / Prover featuring the Doughmaster Controller;



Provided the instructions in this Operating Manual are read and implemented correctly, the optimum performance and reliability of your equipment should be maintained.

**Declaration of Conformity References:**

**Low Voltage Directive 2006/95/EC**

**Machinery Directive 2006/42/EC**

**Electromagnetic Compatibility Directive 2004/108/EC**

**Pressure Equipment Directive 97/23/EC**

**Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC**

**Restriction on Use of Certain Hazardous Substances Directive (RoHS) 2002/95/EC**

Refrigerant Designation	Global Warming Potential
HFC - R134a	1300
HFC - R404a	3260

**CFC Free Refrigerant**

Williams Refrigeration declares that all products manufactured by Williams Refrigeration comply with the above directives as they apply to those products, and those products are therefore declared to be in conformity with the provisions of the above legislation.

**Model No.:** .....

**Serial No.:** .....



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## INTRODUCTION

Your new Williams Dough Retarder Prover (DRP) has been installed to enable you, through its correct utilisation and operation, to achieve a more consistent product quality and to allow you to plan your production schedule more effectively.

Used correctly the DRP will reduce the amount of unsociable hours worked by you and your staff, without affecting the efficiency and production capacity of your bakery.

It is therefore of great importance that a full appreciation of the capabilities of your new DRP is gained and that the methods of operation are fully understood.

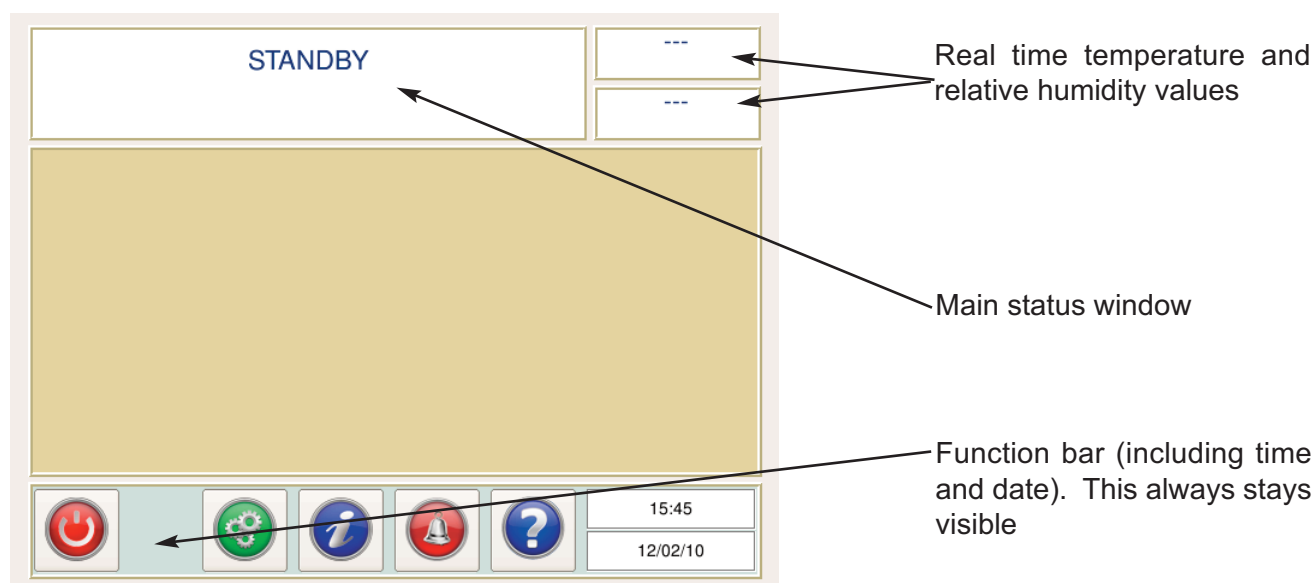
Your Williams DRP includes an independent defrost cycle to keep the coils free from ice and the water vapour produced helps to reduce the moisture lost from the dough pieces. However it is important that the temperature rise within the compartment during the defrost period is limited; otherwise this will impair product quality.






Your DRP is equipped with an automatic warming ramp, the aim of which is to raise gradually the temperature of the unit and the dough pieces and hold the latter until ready for baking.

## CONTROL PANEL OVERVIEW

The Human Machine Interface (HMI) is a full colour touch screen allowing full control of your proving process at a simple touch of the screen when following on screen prompts.

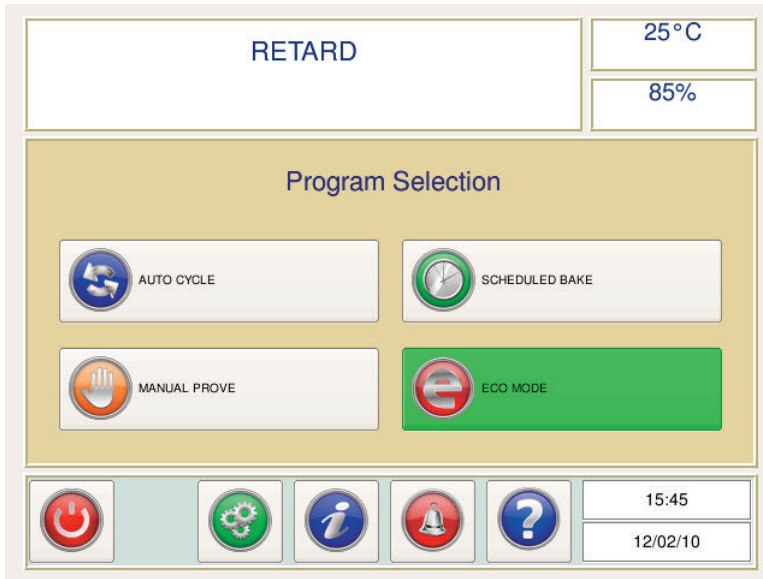
On switching on the mains supply to the Retarder Prover you should be presented with a screen display such as the following;



-  **Standby:** press and hold this button for 3 seconds to switch the retarder prover on or into standby (no machine outputs in operation).
-  **Settings:** press this to access the settings screen. **NOTE:** this button will be greyed out (unobtainable) during one of the prove or ECO mode program cycles.
-  **Information:** press this to access the information relative to the retarder prover current operation.
-  **Alarm:** pressing this button displays current alarms and past alarm history in order of event.
-  **Help:** pressing this displays information useful to the user which is relative to the current screen display or operation

# PROGRAM SELECTION

When the controller has been switched on (from the standby mode) the retarder prover will immediately enter a retard cycle. This cycle (and screen) will be maintained until the retarder prover is either put back into standby mode, or one of the four displayed program cycles is selected.

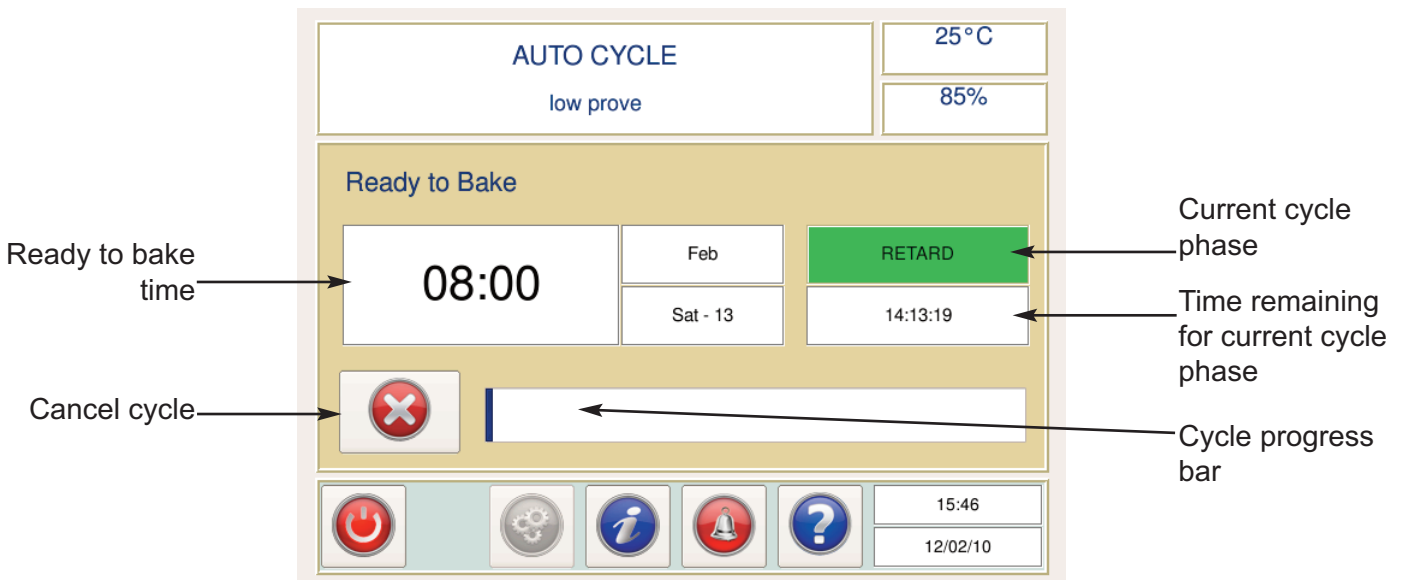


The Doughmaster has 4 basic modes of operation:

## 1. AUTO CYCLE

The Auto cycle is a function which allows the user to run a pre-determined prove cycle, up to a maximum of 3 per day (see User Settings).

The cycle includes a retard phase followed by a recovery/prove phase. The central time displayed is the target ready to bake time; the product is to be removed from the retarder prover at this time to be baked off.



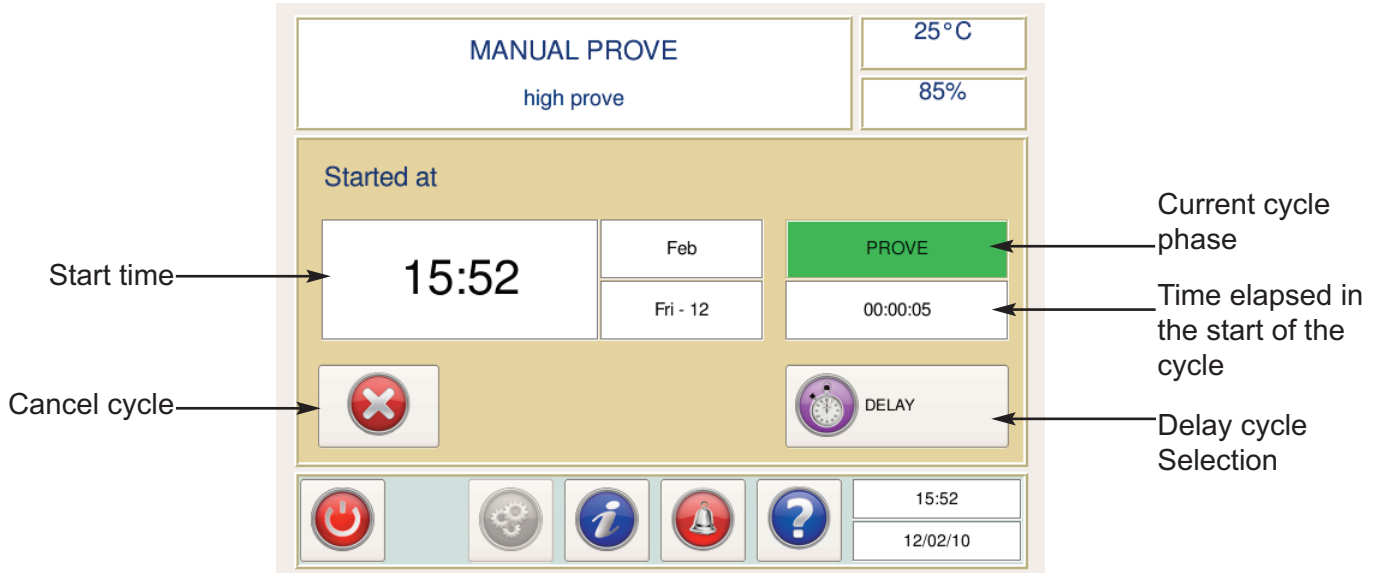
When the ready to bake time has been reached, the operator can either select 'Finish' or 'Delay' (See Product Delay section).

Pressing 'Finish' will display the program selection window again (a retard cycle will start). The product can be taken out of the retarder prover to be baked off.

## 2. MANUAL PROVE

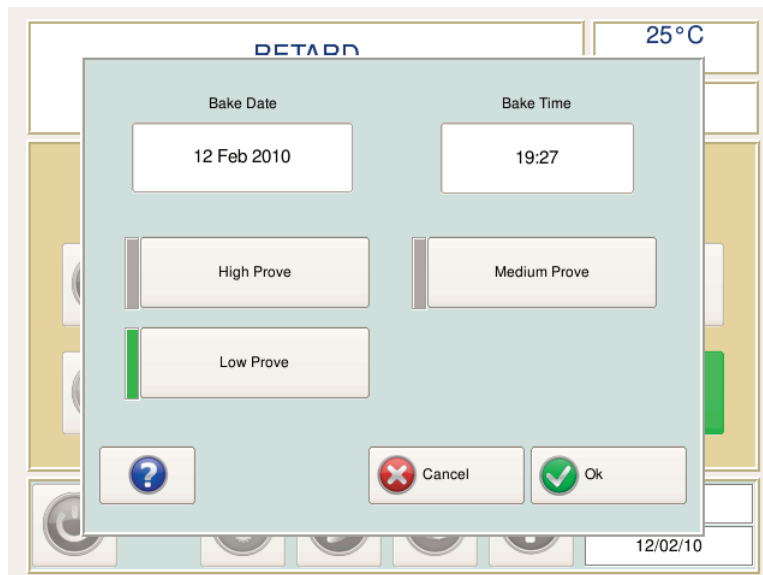
A manual prove cycle can be selected which will take the prover product up to the pre-determined temperature (High, Medium or Low). Once reached, the retarder prover will cycle around the set point temperature until the operator either cancels the cycle or enters a delay cycle. The operator can, at any time during the cycle use the delay function.

Pressing 'Delay' will initiate a mini retard/prove cycle which is used to hold the product in case an oven is not ready to accept the product ready to bake off.



## 3. SCHEDULED BAKE

If the routine production schedule for the day is interrupted to, for example, increase the batch yield, a 'Scheduled Bake' program can be selected. This is a one shot cycle which can be programmed in between the pre-determined 'Auto Cycle' programmed time. This saves having to remember to re-adjust the Auto times to accommodate the one off cycle.



Simply select the date and time you wish the product to be ready for baking off, and the prove temperature, and press 'OK'.

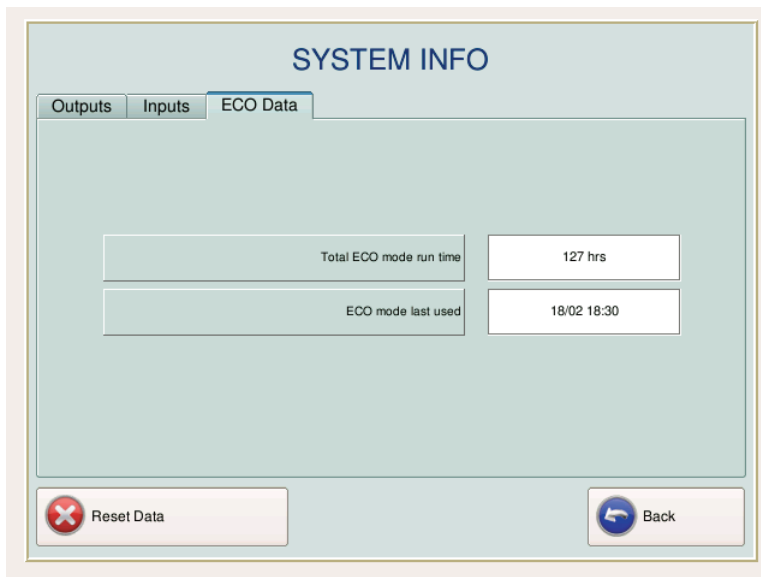
#### 4. ECO MODE

This energy saving mode of operation is used to achieve savings when the Retarder Prover is in a period of non activity (typically between daily manual prove cycles). The main purpose is to maintain a constant mid point temperature which will allow the Retarder Prover to quickly reach either a retard or prove set point temperature. This coupled with minimal fan control achieves significant energy savings in the interim manual periods of operation.

To start the ECO mode, simply press the green Eco mode button from the 'Program Selection' window. During the ECO mode the main screen will turn green to give a visual indication that the energy saving mode is active.



Via the function bar it is possible to view the ECO mode associated data. Press the information button to view the system info screen.

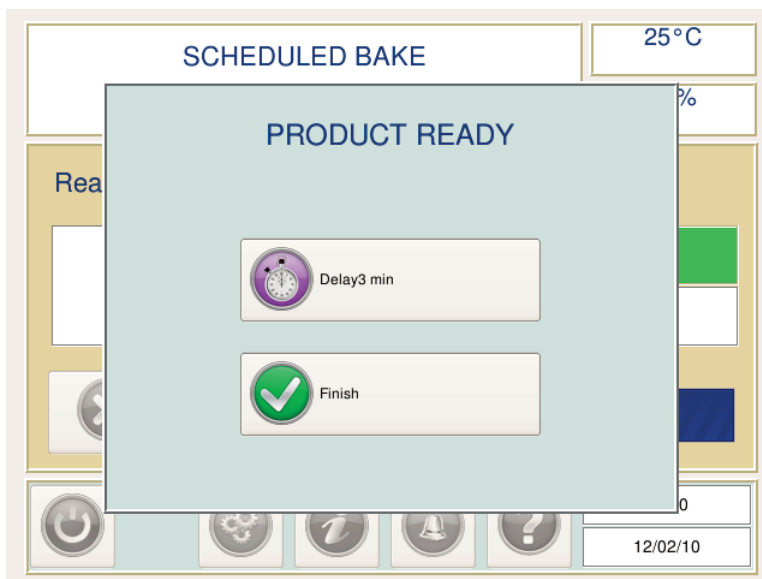


To view specific data, simply touch the ECO data tab to display the following:

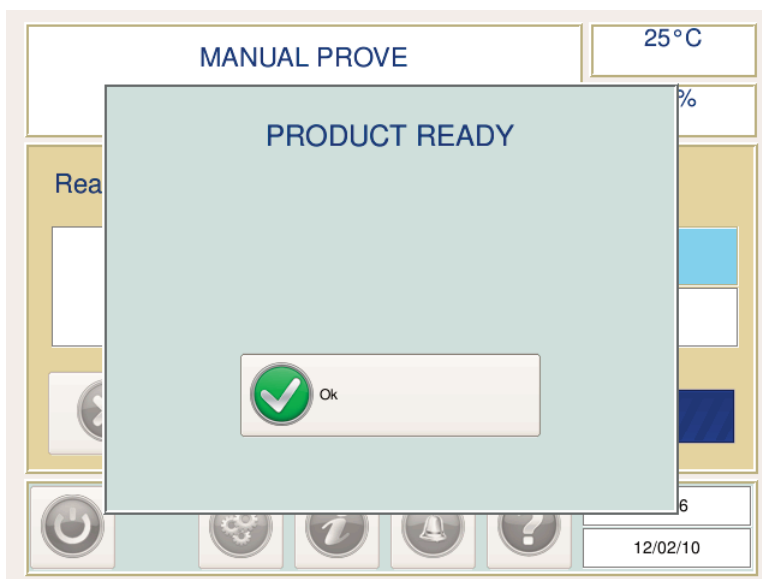
- **ECO mode run time:** this is the total accumulated run time (hours) that the ECO mode has been used.
- **ECO mode last used:** this is the end time of the last ECO mode.

## PRODUCT DELAY

When given the option to do so, pressing 'Delay' will initiate a mini retard/prove cycle which is used to hold the product when an oven is not ready to accept the product ready for bake off. If 'Finish' is selected, this will end the cycle and resume a retard cycle whilst displaying the 'Program Selection' screen.

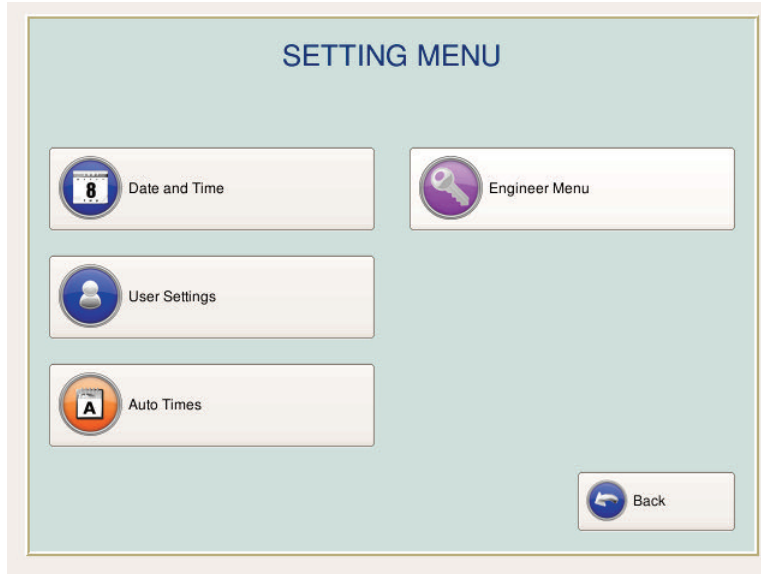


If delay was selected, and the delay cycle is complete, the 'Product Ready' screen will be displayed again. **Please note that the delayed time duration will be displayed on screen.** Press 'OK' to acknowledge the end of the cycle. The retarder prover will resume a retard cycle whilst displaying the 'Program Selection' window.



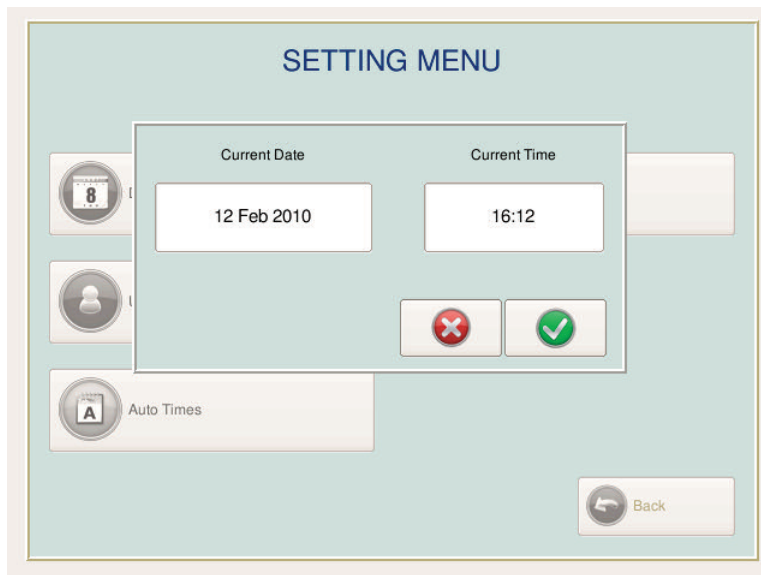
# SETTINGS

Pressing this button on the function bar brings up the following screen;



## DATE AND TIME ADJUSTMENT

To set the time and date press the date and time button.



To change the date touch the date window to bring up the calendar.



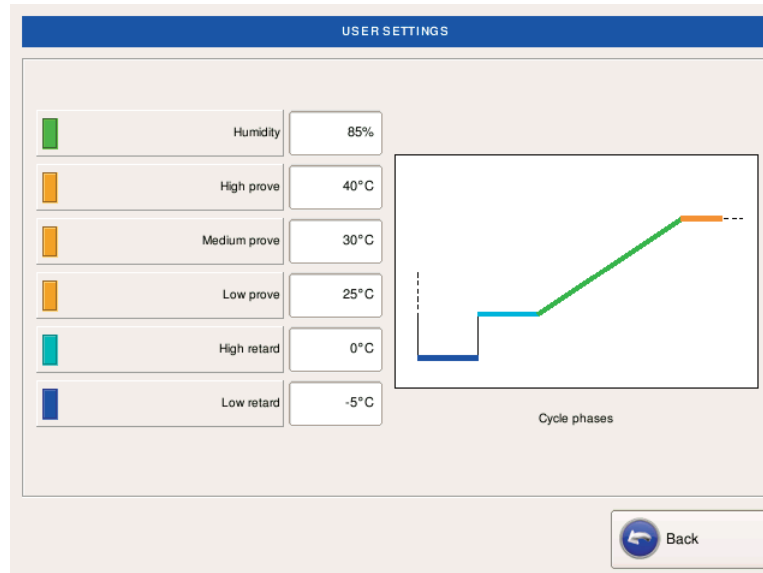


Select the correct date and press the back button. Adjust the time as necessary and press the green accept button to save the new settings.

**NOTE:** in the time zones which utilise day light saving function this will be automatically set to change for British summer / winter time.

## USER SETTINGS

Touching the user settings button will bring up the following screen;



The operator can adjust the humidity and set point temperatures via this window by touching the respective parameter window.

- Humidity - the maximum humidity required during the recovery/prove cycle. Steam is injected into the prove chamber precisely to ensure the finished product is always at its premium.
- High prove - the maximum temperature set point for a high prove cycle.
- Medium prove - the maximum temperature set point for medium prove cycle.
- Low prove - the maximum temperature set point for a low prove cycle.
- High retard - the maximum temperature set point for the high retard cycle. The high retard phase is used as the standard chill holding phase which precedes the recovery/prove cycle.
- Low retard - the maximum temperature set point for the low retard cycle. The low retard cycle automatically engages if the duration between the current and ready to bake time is of a pre-determined time (factory set to 32 hours). This is used as a long term chill holding phase which precedes the recovery / prove cycle, a typical example being over a weekend.

## AUTO TIMES

The auto cycle uses a set of pre-programmed ready to bake end times set by the operator comprising of a maximum of 3 per day, 7 days a week. This is a fully flexible system whereby the operator can choose to program all the available times for each day, or choose to use just 1 timed program. It is even possible to skip a day(s) if necessary.

Day select: touch to select day for program skip

Minimum allowed time between settings

Program: touch to select weekly setting

Invalid entry: red highlighted cells indicate the duration between programs is too short (see bottom left of the screen)

Bypassed program

	Prog. 1	Prog. 2	Prog. 3
Monday	08:00	12:00	16:00
Tuesday	08:00	11:00	16:00
Wednesday	08:00	12:00	16:00
Thursday	08:00	12:00	14:00
Friday	08:00	12:00	16:00
Saturday	08:00	12:00	16:00
Sunday	08:00	--:--	--:--

Minimum time between programs: 3h 30min

**Daily program setting:** Simply touch the cell you wish to adjust, and input the required time on the pop up window numeric key pad and select OK. The times between each neighbouring program time must be of a time greater than the duration displayed in red at the bottom left of the screen. Those times that are not will highlight red. These times will be ignored by the controller, and the next available valid entry will be used.

**Program bypass:** It is possible to bypass a setting for a program. For example, the screen shot above depicts Sunday with just one programmed time in the 'Prog.1' column. The other two times for Sunday have been bypassed so that the next available program after 'Prog.1' on Sunday will actually be 'Prog.1' on Monday at 8.00am. To select bypass, simply touch the respective day (highlights to dark grey) and then touch the program cell you wish to bypass on that day. Once the '--:--' is displayed, touch the respective day to exit the bypass setting mode. To return the bypassed program back to a time, simply repeat the above process so that a time is displayed again.

## Weekly program setting:

To aid the programming of the ready to bake times, it is possible to quickly reproduce the same time for the same program number for the entire week (the screen shot above depicts 'Prog.1' having the same ready to bake time for every day of the week). Simply input the time on Monday you wish to be programmed for every day under the required program number (i.e. 'Prog.1'), and touch the respective program number (program number becomes highlighted). The prompt will be given as shown to the right.

Are you sure you wish to set a weekly time?

Cancel Ok

Minimum time between programs: 0h 6min

Press the green 'OK' button to confirm.

## ENGINEERS MENU

This function is reserved for service engineers only and is password protected to avoid unauthorised entry to system parameters.

## INFORMATION

This allows the operator to observe the following;

### OUTPUTS

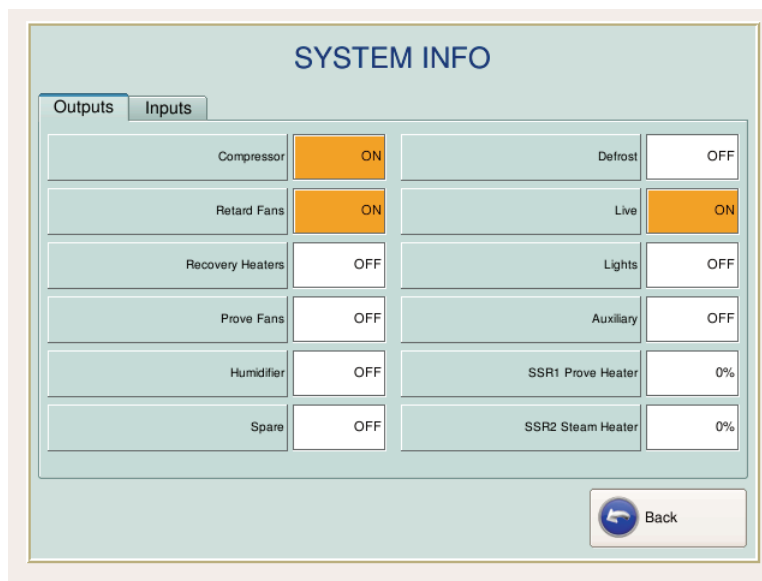
The status of each load (i.e. fans, heaters, etc) as highlighted in yellow, can be viewed. This information can be helpful for both the operator and engineer to understand what is currently being controlled.

### INPUTS

The real time value for various inputs (temperature, humidity etc). This is mainly useful for the engineer.

### ECO DATA

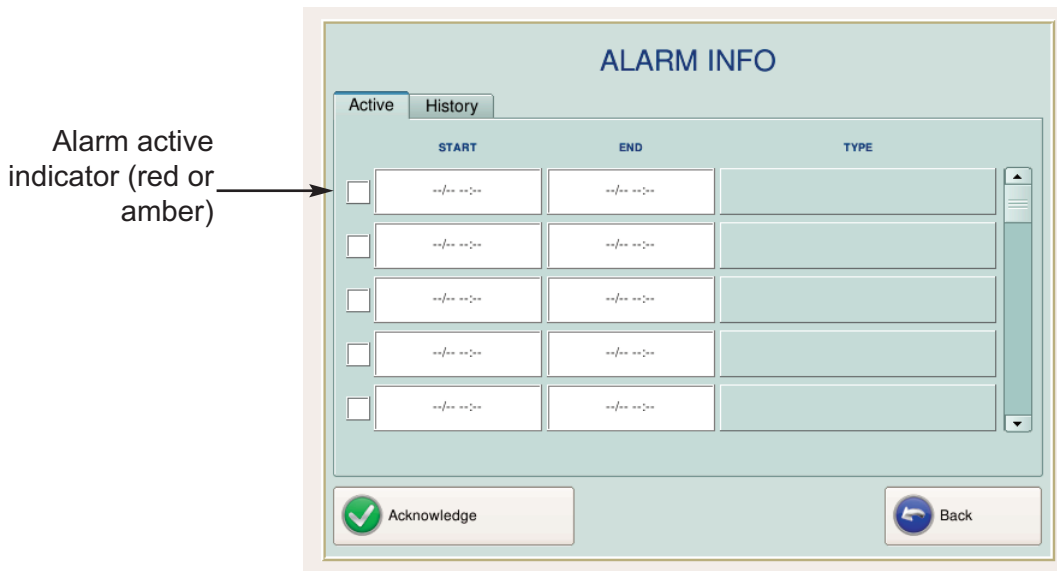
See the ECO mode section.



## ALARMS

If an alarm condition arises, an alarm (red) window appears on screen together with the internal alarm sounder, to notify the operator of the current adverse condition.

The alarm symbol on the function bar will flash when an alarm is active. Pressing this button will bring up the Alarm Info active screen.



To acknowledge the alarm, simply press the acknowledge button. This will stop the alarm sounding and the alarm button flashing on the function bar, except, if the alarm is still active (the alarm button continues to flash).

The Alarm Info active screen has four items of information per alarm. The alarm active indicator, start and end times, and type of alarm.

### Alarm indicator box

This will show either as a red or amber box. Red indicates a currently active alarm, and amber shows an alarm condition which has been fixed / solved.

### Start time

The time the current alarm was first recorded.

### End time

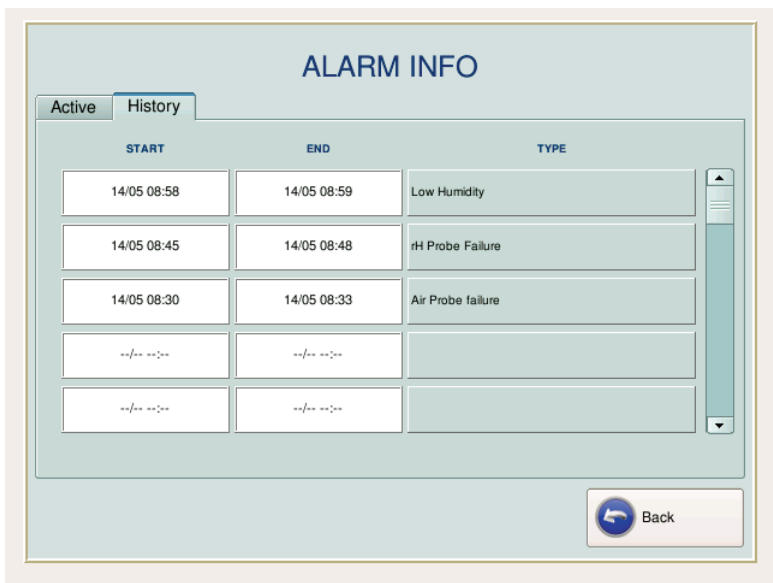
The time the alarm condition which has been fixed / solved. If no end time is displayed, the alarm is still active.

### Alarm type


This is displayed to the operator to help with communicating the fault when calling for a service engineer.

### Alarm history

Selecting the history tab displays previous alarm related information; start and end times, and type of alarm. The most recent alarm will be displayed at the top of the list, and when the list memory becomes full, the oldest will be removed to accept the next alarm information. This continues in a rolling fashion.



## HELP

Most screens have the option of using the help feature by pressing the  button at any time (unless it is greyed out). Pressing this will display information describing either program functionality (such as Auto cycle) or actual information on how to set programs, input times, etc

## ROUTINE MAINTENANCE

All maintenance should be carried out by a competent, qualified person. We recommend regular preventative maintenance using a qualified service provider in order to get the best from your equipment.

### CLEANING

**Exterior:** The exterior of your Retarder Prover is stainless steel and, if looked after correctly, will retain its 'as new' finish for many years. Normal day to day cleaning should be carried out with a soft cloth and soapy water. Always wipe in the same direction as the grain. Whilst stainless steel is robust, the stain smooth finish can be spoiled by wiping against the grain. Never use abrasive materials or cleaners, or chemical cleaners. These can damage the surface and cause corrosion. Occasionally, the exterior surface should be polished with a good stainless steel polish to protect it.

**Interior:** The interior should be cleaned regularly with warm soapy water and a soft cloth, preferably between prove and retard cycles. Dry thoroughly afterwards and where possible remove all racking to aid the process.

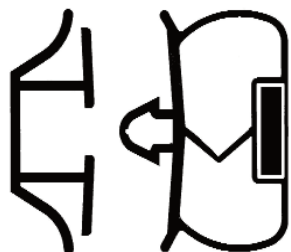
**Water Tank:** Some water supplies are hard and others soft, therefore the amount of maintenance will depend on your type of water supply, we recommend every 6-12 months, more frequently if possible. Williams specify softened water supply on installations. Lack of maintenance will damage the water circuit, be expensive to repair and put the Retarder Prover out of action. Before cleaning first disconnect the electrical supply and ensure that the tank is cool.

### Condenser Cleaning

The condensing unit may be mounted on the roof or remotely. It requires cleaning, approximately 4 times per year. To clean, **disconnect mains supply before starting**. Brush fins vertically with a stiff brush, taking care not to damage them or push dirt/dust further in and vacuum away. If there are further grease deposits still remaining on the condenser call you Service Provider to carry out a full service. Take care not to damage any electrical connections and cables during removal and cleaning process. **Remember to reconnect mains supply once finished. NOTE: Non-compliance may invalidate your Warranty.**

### CLEANING / REPLACING THE GASKET

Door gaskets should be checked and cleaned regularly and replaced if damaged. To clean the gasket, wipe with warm soapy water and a soft cloth, ensuring it is completely dry before closing the door. **DO NOT** use a sharp knife to clean or scrape the gasket. Damaged gaskets do not seal correctly and can increase the amount of electricity consumed, seriously affecting the efficiency and performance of the cabinet.



Damaged gaskets are easily replaced. Simply pull out existing part and push new gasket into channel (gasket retainer) at centre and work along, pushing gasket into channel. Continue with additional three sides, pushing corners in last.

## PROBLEM SOLVING WITH PRODUCT

### SKINNING

**Cause:**

Drying of the products due to lack of humidity

**Result:**

Pinched, small products

**Solutions:**

1. Increase humidity level
2. Ensure racks are positioned correctly
3. Ensure doors are firmly closed, especially overnight or over weekend
4. Do not allow racks or product to lie in bakery before loading Retarder/Prover

### SPOTTING

**Cause:**

Products fermenting during or before retarding

**Result:**

Gas migrates to surface of product, showing as blisters, bubbles or spots on the surface

**Solutions:**

1. Do not load product onto warm trays
2. Do not load Retarder/Prover before it has pulled down to temperature
3. Set retard temperatures correctly, i.e. maximum of -5°C over weekend and +3°C overnight
4. Adjust downward if spotting persists
5. Ensure that no-one is tampering with control i.e. switching to prove
6. Load Retarder/Prover quickly after moulding - as the dough will prove in the bakery
7. Try to keep door opening/closing to a minimum
8. If the above does not ease the problem, adjust yeast levels downward, in stages by as much as 50%
9. To ensure that the refrigeration system is working correctly, monitor temperature. Remember that automatic defrost will raise the temperature in the coil area at intervals

## SAFETY INFORMATION

### Safety Over-Temperature Thermostats

Your Williams DRP is fitted with manual reset safety over-temperature thermostats.

In the event that a malfunction of the control system causes the internal temperature to rise above 60°C, one or more of these safety thermostats will trip out. This will cut the mains power to all of the machine's equipment (except control panel display).

This will be indicated by an over-temperature alarm display on the control panel that cannot be cancelled by the user. This is designed to protect your Williams equipment from permanent damage, and is an important safety feature.

In the event that a safety over-temperature thermostat should trip out, it will be necessary to call out a service engineer to repair the fault and reset the safety thermostat.

These safety thermostats will be located either inside the control panel above the door, or on the roof inside one of the plastic boxes attached to the pod systems.

### **Fan Guards / Air Ducts**

These guards / ducts are designed both to direct air flow and to protect the user from the rotating fan blades. **DO NOT REMOVE THESE GUARDS.**

**Never operate the machine without the fan guards in place.**

## PARTS & LABOUR WARRANTY POLICY - UK ONLY

Our warranty applies to equipment manufactured by Williams Refrigeration and equipment bearing the Williams name plate and serial number identification tag.

We undertake, in conjunction with the supplying agent, distributor or representative, to repair free of charge during our standard business hours any such piece of equipment or part thereof used which is found to be faulty in either materials or workmanship subject to the further conditions below:-

### Warranty Terms and products Covered

We offer a **24 months Warranty** from our original date of sale with the following Williams equipment:

1. Garnet / Sapphire / Zircon / Jade / Amber (stainless) / Mobile Heated / Mobile Refrigerated.
2. Reach-in Blast Chillers / Reach-in Blast Chiller Freezers.
3. Opal / Emerald / Onyx / Aztra / Salad Counters.
4. Crystal Bakery Cabinets and Counters.

We offer a **12 months Warranty** from our original date of sale for all other Williams equipment including:

1. All Modular Products (including coldrooms).
2. Remote Systems (including glycol).
3. Bottle Coolers.
4. Multidecks and merchandiser cases.
5. GEM product range.
6. Bottle Well / Meat Freezer Well.
7. Thermowell.
8. Coral Wall Mounted Units.
9. Non standard and other products.
10. Front of House display cases.
11. White Goods.

### Warranty Terms

Our warranty is offered where the equipment has been installed correctly and has not been subject to misuse or abuse and is functioning correctly.

The equipment was purchased by the authorised supplying distributor direct from Williams Refrigeration and not through a wholesaler or other supplier whose warranty terms may be different.

The Warranty Policy shall be non-transferable.

Replacement of defective equipment can only be made with the approval of Williams Refrigeration.

Any repair under warranty will only be carried out with the product in its position of operation or in a suitable location on the customer's premises. If the product has to be removed for security or any other reason, this will be subject to additional charge (may include hydrocarbon charged equipment).

Warranty work will be covered by Williams Refrigeration or by one of its appointed service agents between the hours of 8.00am and 5.00pm Monday to Friday. Any works undertaken outside of these hours are chargeable.

### Claims Procedure

If a customer wishes to make a claim under the terms of this warranty, the following procedure should be observed:

1. Contact the supplying agent, representative or distributor.
2. Quote the equipment model, serial number and date of installation.  
The serial number is located on the product identification plate inside the cabinet, modular product door frame or similar location. It is recommended that operators should also record the serial number on the operating instruction booklet supplied with the product.
3. Contents risk and insurance responsibility remains at all times with the customer.

### Exceptions to Standard Warranties

1. The Standard warranty applies to equipment located in Mainland GB only and excludes locations subject to restricted or secure access, offshore and marine applications. Additional time and travel charges may be applied to the following locations – Isle of Wight, Channel Islands, Isle of Man, Northern Ireland and Scottish Isles.
2. Any fault that is not reported within 10 working days of being discovered.
3. Service calls to equipment under warranty, or service calls made under chargeable arrangements will be carried out in accordance with standard conditions of sale. Unless otherwise specified, a maximum of 15 minutes of administrative time, not spent directly carrying out servicing work, is provided for within the supply. Any requirement for staff attending the call to spend

greater time than 15 minutes due to administrative requirements, such as on waiting time or security clearance, or health and safety risk assessments, will be chargeable at our prevailing rate. We reserve the right to apply Time Travel & Call out charges if no fault is found with the product or access is either restricted or denied to our attending engineer.

4. No claim shall exceed the original selling price.
5. Claims for Food and / or contents stored in the equipment supplied (including pharmaceutical or other items) and any consequential loss how so ever arising are excluded under our warranty terms.
6. Components including gaskets, doors, drawers, handles, shelves, tray slides, all internal fixings, plug and lead, connectors, the outer shell, castors / legs, food probes, refrigerant and blockages as well as consumable items such as (but not limited to) batteries, fuses, light bulbs, printer cartridges, keys, glass and paper roll.
7. Equipment manufactured to the customers' own design, Williams Refrigeration will not be liable for any defect, non performance or improper operation of the equipment arising from any drawing design or specification supplied by the customer, their representative or agent.
8. Second hand equipment.
9. The customer uses or installs the equipment in such a way that it exceeds its design envelope or operates the equipment at control parameters other than those provided as standard factory settings.
10. The customer fails to observe commonly accepted operating practices.
11. The customer has not properly cleaned or maintained the equipment or carried out necessary servicing, including cleaning of the condenser, in accordance with instructions, literature or directions issued by Williams Refrigeration. (Operating Instructions are supplied with all equipment but also available at [www.williams-refrigeration.co.uk](http://www.williams-refrigeration.co.uk)).
12. Equipment fails through improper installation by others, misuse, abuse, accidental damage, power loss or fluctuations, fire, flooding or acts of god.
13. Any third party item(s) connected to the equipment that may affect performance.
14. The customer permits persons other than those authorised by Williams Refrigeration to perform or affect repairs or adjustments to the equipment.
15. If authorised representatives of Williams Refrigeration are denied full and free rights of access to the equipment for inspection during normal business hours as previously stated.
16. If Repairs are made using spare parts or replacement items not supplied or preauthorised by Williams Refrigeration.
17. The initial equipment supply date shall apply for warranty validity for the subsequent supply of replacement of parts or products.

### Extended Warranty

Extended Warranty offers the opportunity to protect your equipment (subject to conditions outlined) for an additional period of up to 5 years inclusive of original warranty periods.

Should you require Extended Warranty, state on your order or notify the Dealer or Williams Sales Manager at the time of purchase and they will be able to arrange it for you.

To ensure your Extended Warranty Policy remains valid, at least one maintenance / service visit per year must take place in years 2, 3, 4 and 5.

**For further information or clarification please call 01553 817000** or email to [info@williams-refrigeration.co.uk](mailto:info@williams-refrigeration.co.uk) or write to Williams Refrigeration, Bryggen Road, Kings Lynn, Norfolk, PE30 2HZ











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