



OPERATOR'S GUIDE

ProDry Drying Rate Tester

Covering Serial Numbers
1931-19-1000 & upwards.

Published by:

JAMES HEAL LTD.
RICHMOND WORKS
HALIFAX
WEST YORKSHIRE
HX3 6EP
ENGLAND

TELEPHONE +44 (0) 1422 366355
FACSIMILE +44 (0) 1422 352440

E-mail info@james-heal.co.uk
Internet <http://www.james-heal.co.uk>

© 2019

TABLE OF CONTENTS

TABLE OF CONTENTS	2
James Heal.....	3
Setting the Standard.....	4
Areas of Expertise	4
1. Introduction	5
1.1. ProDry – Drying Rate	5
1.2. Features & Benefits	5
1.3. Service & Calibration.....	5
1.4. Technical Assistance.....	5
1.5. Standards.....	5
2. General Information	6
2.1.....	6
2.2. Revision History	6
2.3. General Description and Use of Equipment.....	7
2.3.1. Definition of Drying Rate	7
3. Safety and environmental protection summary	7
3.1. Safety Summary	7
3.2. Safety Precautions	8
3.3. Operator Safety	8
Customer Responsibilities	9
3.3.1. Cleaning & Maintenance	9
4. Instrument Specification.....	9
5. Pre-Installation.....	10
5.1. Preinstall Checklist	10
5.2. Customer Responsibilities.....	10
5.3. Delivery	10
5.4. General Planning	11
5.5. Area Planning	11
5.6. Electrical	11
5.6.1. Electrical Specifications	11
5.6.2. Power Cord	11
6. Installation.....	12
6.1. Receiving Inspection	12
6.2. Unpacking	12
6.2.1. Unpacking Checklist	12
6.3. Moving the machine.....	13
6.4. Installation Procedure.....	13
6.5. Connections Preparation	13
6.5.1. Electrical.....	13
6.6. Spares and Accessories	13
6.7. Product Overview.....	14
6.7.1. External instrument components	14
6.7.2. Internal / Electronic Components.....	15
7. Touchscreen Interface.....	16
8. Operation.....	22

8.1. Test preparation	23
8.2. Manual Mode Test Procedure	24
8.3. Automatic Mode Test Procedure	30
10. Fault Finding	33
11. Service & Calibration.....	36
11.1. Software.....	36

JAMES HEAL

At James Heal, we are dedicated to designing and developing high precision testing instruments and test materials for physical and colour fastness testing. Our worldwide Service

and Calibration division and expert technical assistance complement our product range, adding real value to your laboratory testing activities.

Setting the Standard

We are committed to forming close relationships and have established numerous partnerships within the textile industry, from trade and standards organizations, to test houses, customers and distribution partners.

With a heritage spanning more than 140 years, we have evolved and grown through a culture of continuous improvement, resulting in a thorough understanding of the applications, operating conditions and requirements of customers worldwide – from independent testing laboratories and test houses, to fabric suppliers, manufacturers and retailers.

Using knowledge and expertise, we consistently set the industry standard through product innovation and technology, with customer and user needs, present and future, driving our technological advancements. You can be assured that with James Heal, you will always receive the highest levels of product quality and customer service. We have Agents and Distribution partners all over the globe, ensuring locally available product whenever, and wherever you need it.

Areas of Expertise

Textile: Colour Fastness

- Chlorinated Water
- Dry Cleaning
- Dry Heat
- Hot Pressing
- Laundering
- Light
- Perspiration
- Phenolic Yellowing
- Print Durability
- Rubbing
- Washing
- Water

Textile: Physical

- Abrasion
- Bursting Strength
- Compression and Puncture
- Crease and Wrinkle Recovery
- Crimp
- Drape
- Durability
- Flammability
- Mass per unit area
- Pilling and Fuzzing
- Security of Attachments
- Seam Slippage
- Shrinkage
- Snagging
- Spray Rating
- Stretch and Recovery
- Surface Deterioration
- Tear Strength
- Tensile Strength
- Washing and Drying

Non-Textile

- Bursting strength of nonwovens, plastics, paper and medical products
- Micro-scratching of laminates, wooden, painted, automotive and high gloss surfaces
- Physical and colour fastness testing of leather
- Rubbing fastness of laminates and wooden surfaces
- Tear strength of paper and plastic

1. INTRODUCTION

1.1. ProDry – Drying Rate

ProDry is a test instrument, which can be used to perform *AATCC Test Method 201 Drying Rate of Fabrics: Heated Plate Method*.

Please read this operators guide before commencing installation and use of the ProDry instrument.

1.2. Features & Benefits

- Touchscreen user interface
- Live Temperature Graph
- Automatic Dosing
- Laminar Airflow
- AATCC Compliance - 201 Drying Rate of Fabrics: Heated Plate Method
- Illuminated Test Area
- Audio & Lighting Alerts
- TestWise Integration
- Easily adjust drying end time using intersection point.

1.3. Service & Calibration

- Worldwide Service
- ISO 17025 based calibration service
- 18 Months' Warranty

1.4. Technical Assistance

- Operator training
- Knowledge transfer
- Applications support
- Engineering support

1.5. Standards

- AATCC Test Method 201 Drying Rate of Fabrics: Heated Plate Method

2. GENERAL INFORMATION

2.1.

Manufactured by:
James Heal™

Richmond Works
Lake View
Halifax
HX3 6EP

Telephone No: 01422 366355

This manual is valid for the James Heal™ ProDry, Dry Rate Tester.

This manual covers the operation and day to day maintenance for the James Heal™ ProDry, Dry Rate Tester. It has been written and illustrated using the best possible information at the time of publication. The manual should be regarded as part of the equipment and should be kept with it throughout its working life.

Any difference between the manual and the equipment reflect improvements introduced after the publication of the manual. Any amendments received should be recorded below and incorporated in the relevant part of the manual.

Changes, technical inaccuracies and typographical errors will be corrected in subsequent revisions.

As part of our policy for continuous product development and improvement, James Heal™ reserves the right to make changes in design and specification without notice.

2.2. Revision History

See front cover for Publication number, e.g., 290-1523-1

Revision	Date	Originator	Details Of Revision
1	13/11/19	AC	Op Guide Created

2.3. General Description and Use of Equipment

ProDry is a testing instrument, which can be used to perform AATCC Test Method 201 Drying Rate of Fabrics: Heated Plate Method.

Warning: The equipment must not be used for any purpose other than for that which it was intended.

2.3.1. Definition of Drying Rate

The change in volume per unit time a liquid evaporates from a textile.

3. SAFETY AND ENVIRONMENTAL PROTECTION SUMMARY

Note: All operators and customer maintenance personnel should familiarise themselves with this manual before using or servicing the equipment.

3.1. Safety Summary



Overheating – Warning

A heater fault could cause the ProDry to overheat, it will only ever reach 82°C at 24°C ambient. The machine should be regularly attended during testing, if operator notices signs of overheating safely power off the device.

A fire extinguisher should be located within easy reach of the device.



Water – Warning

If excess water seen leaking around the sample/heater plate or from the base of the machine seek assistance from James Heal or service agent.

Only use provided water beaker. Do not spill or expose ProDry to excess volumes of water beyond those advised in standard dry rate tests.



Electric Shock – Warning

No access to the internal workings of the ProDry by operators, only by qualified and trained personnel. If users see exposed or damaged power cables do not use or touch the instrument and immediately seek technical assistance.

Mains switch is located on the left hand side near the rear of the machine.



Access – Warning

Do not allow general access to ProDry only to those competent and trained personnel. ProDry should be stored in a controlled environment where only authorised personnel have access.



Manual Handling – Warning

Avoid lifting or moving the test equipment without relevant manual handling training.

Warranty – Warning

Do not attempt to gain access to the internal workings of the ProDry, if tampered with this will invalidate your warranty.

Note: The equipment must only be operated in an environment with adequate lighting with no shadow or stroboscopic effects.

3.2. Safety Precautions



Warning

Always observe the following safety precautions.

Ensure electrical outlet is dedicated (no other equipment on the same circuit breaker).

Only the voltage indicated on the unit.

Serial No./Rating Plate is connected to the unit.

It is recommended that the mains electrical isolation switch be lockable and located in a visible position.

Do not operate instrument with a damaged power cord until it has been examined and repaired by an authorised service representative.

Ensure power cord is protected from contact with hot surfaces.

The power cord must not be subject to foot or machine traffic and must not be placed on the floor without adequate protection.

Always have electric box covers in place when instrument is plugged in and the mains isolator switch is ON.

Do not use an extension cord.

Do not defeat or bypass built-in equipment safety features.

Any maintenance, servicing or adjustments must only be carried out by suitably skilled or properly instructed/supervised personnel.

Wear appropriate Personal Protective Equipment (PPE) when performing regular testing tasks and performing maintenance.

3.3. Operator Safety

Always isolate from the electrical supply before carrying out authorised maintenance work on the machine.

Access to the main electrical power isolator must not be obstructed.

The area around the machine should be kept clean, dry and clear of any waste material.

Any maintenance, servicing or adjustments must only be carried out by suitably skilled or properly instructed / supervised personnel.

Customer Responsibilities

3.3.1. Cleaning & Maintenance

Cleaning and maintenance should be only carried only by trained/competent personnel.

Correct PPE for cleaning needed to prevent burns to skin and eye damage when using cleaning agents.

4. INSTRUMENT SPECIFICATION

	James Heal™ ProDry
Machine Only W x D x H (mm / inches))	W 510 x D 625 x H 447.5mm W 20 x D 24.6 x H 17.62"
Weight (kg / lbs)	48kg / 106lbs
Electrical Requirements	Voltage: 100-240Vac Frequency: 50/60Hz Current: 1A

5. PRE-INSTALLATION

5.1. Preinstall Checklist

The ProDry is a heavy test instrument. Due to the dependence on the instruments precise test results care needs to be taken when installation takes place, preventing damage or compromise of the standardised test instrument, which could result in invalid results.

1. The final location of the ProDry has a weight bearing capacity of at least 48kgs.
2. The final location is set at a usable access height, for users to load the samples and interact with the touch screen.

5.2. Customer Responsibilities

The James Heal™ ProDry instrument will be shipped in one crate, if ordered as a standalone instrument. The contents of which will need transporting to the install site by James Heal or associated agent.

James Heal or associated agent will install this instrument, we advise all installers to be familiar with the Safe Working Procedure Document of the ProDry before commencing installation.

Prior to installation check content of delivery using with reference to Unpacking section 6.2.

General responsibilities include:

Providing James Heal with delivery instructions.



Having the necessary equipment and/or personnel for unloading the delivery vehicle and moving the equipment to its final site.

Preparing the installation site prior to the arrival of the instrument.

5.3. Delivery



Handling Equipment

Provide the necessary equipment, such as genie lift or forklift for unloading the unit.



Personnel

Provide personnel for unloading, unpacking and transferring the equipment.

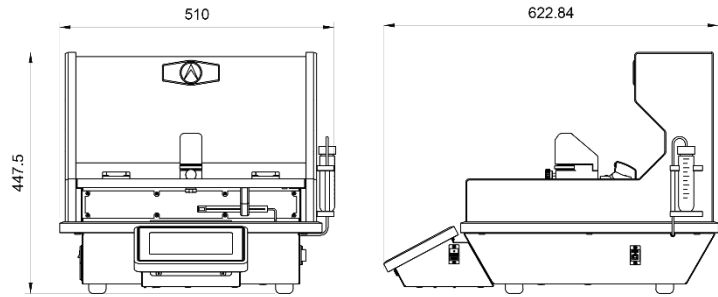
Clearance

Check the delivery route and remove all obstructions.

Unit

Minimum width: 515mm
Minimum height: 450mm
Minimum Depth: 625mm

Minimum weight: 48kg



5.4. General Planning

Electrician

Have an electrician available to provide the necessary wall outlets, prior to installation.

5.5. Area Planning

Room Layout

Provide adequate space for installing and operating the equipment. A minimum of 1000mm/39.4" in front of the machine is recommended.

Work Surface

Provide a stain and chemical resistant work surface for ease of cleaning.

Work Surface Level

The work surface should be flat and level in both directions.

Work Surface Load-Bearing Capacity

The work surface must be capable of supporting the operating weight of the equipment.

5.6. Electrical

Note: The electrical installation should conform to the codes and requirements of the country or locality in which the equipment is to be installed.

5.6.1. Electrical Specifications

Voltage: 100-240Vac

Frequency: 50/60Hz

Current: 1A

5.6.2. Power Cord

The equipment is provided with a 2 meters long power cord for EURO, US and UK mains.

6. INSTALLATION

6.1. Receiving Inspection

Your James Heal™ ProDry was carefully inspected and tested prior to shipment. Upon its arrival, inspect the crate for damage. Unpack the machine as soon as possible and conduct a thorough examination of the unit and its components. Do this in the presence of the carrier if at all possible. If damage is noted, take photographs of the damaged portions and immediately file a claim with the carrier. NOTE: If the carrier is not notified within 48 hours of delivery, they cannot be held responsible.



Warning

Beware of sharp edges, splinters, pinch points, exposed nails and staples when unpacking. Wear leather gloves.



Warning

Wear safety shoes, glasses and gloves when unpacking the equipment. Beware of sharp edges, splinters, pinch points, exposed nails and staples.

6.2. Unpacking

6.2.1. Unpacking Checklist

List of components/assemblies that will be delivered:

Stock Code	Item name	Quantity
	ProDry Instrument	1
130-853	Pro Dry Pyrex/Glass Water Reservoir	1
573-101	ProDry 50mm Setting Gauge	1
573-100	ProDry 10mm Setting Gauge	1
	ProDry Strip Magnet	1
	ProDry Frame Magnet	1
142-304	Mains Lead Straight (US, EURO, UK)	1

6.3. Moving the machine



Warning

Personal Protective Equipment must be worn, safety shoes and non-slip gloves.



The equipment is heavy. Use sufficient personnel and/or lifting devices for its movement. Provide the necessary equipment, taking note of the centre of gravity to ensure the lift is effected in a safe manner.

Provide adequate space for installing and operating the equipment.

The floor and work surface must be flat and level and capable of supporting the operating weight of the equipment.

6.4. Installation Procedure

Ensure the ProDry is placed on an appropriate supported work surface at the right height for operatives to load test samples and interact with the touch screen comfortably.

6.5. Connections Preparation

6.5.1. Electrical

- Stand the instrument on a firm and level surface.
- Connect the electrical power supply to the mains input using the lead provided.

The power rating for **ProDry** is:

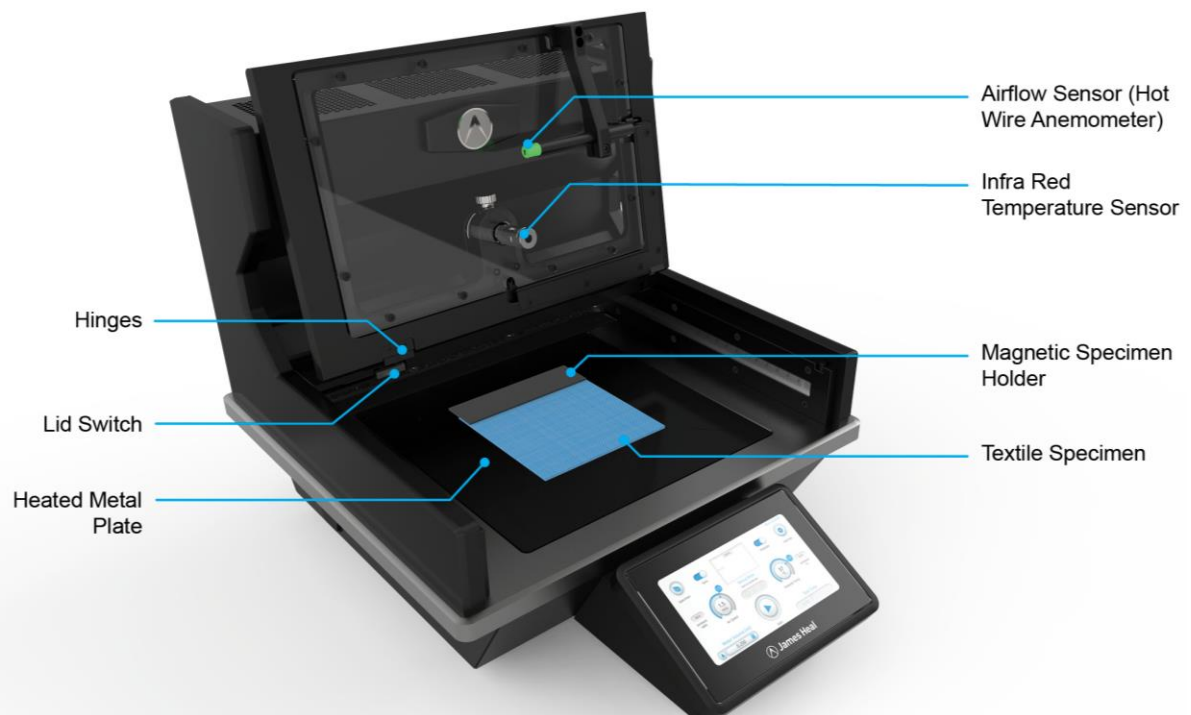
- Voltage: 100-240Vac
- Frequency: 50/60Hz
- Current: 1A

6.6. Spares

Part Spares	Quantity Provided	Stock code
Connector Tube	1	573-024
ProDry Filter	1	394-300
Pyrex/Glass Water Reservoir	1	716-827
Fuse 2A T 20x5mm	1	130-853

6.7. Product Overview

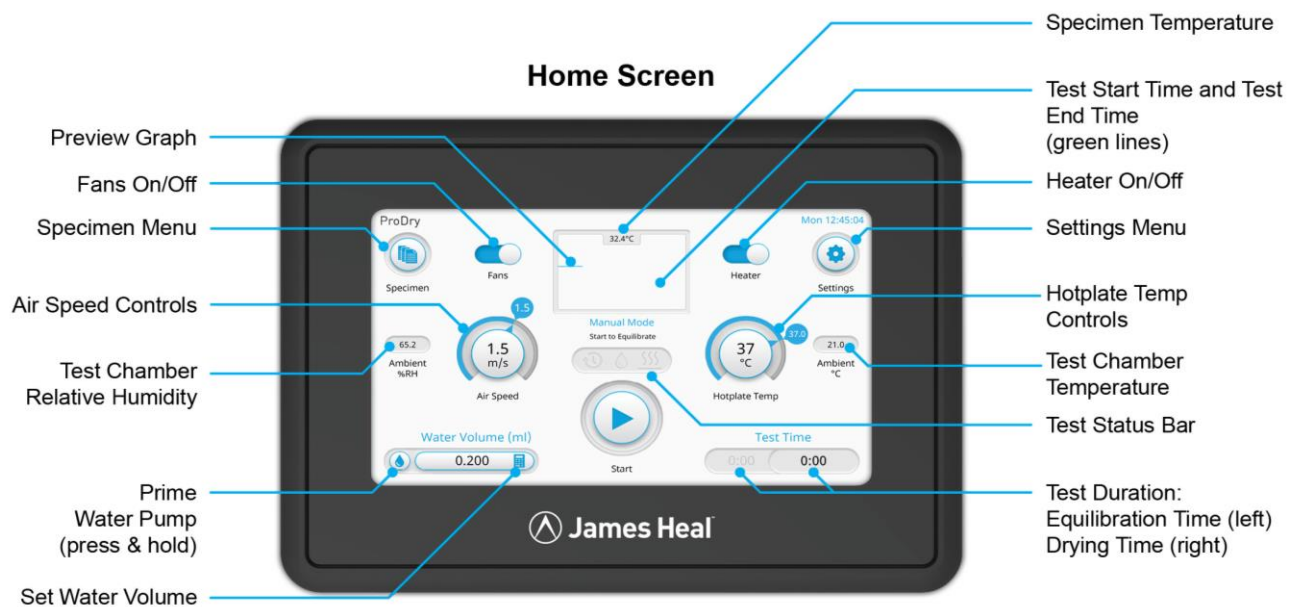
6.7.1. External instrument components



6.7.2. Internal / Electronic Components



7. TOUCHSCREEN INTERFACE

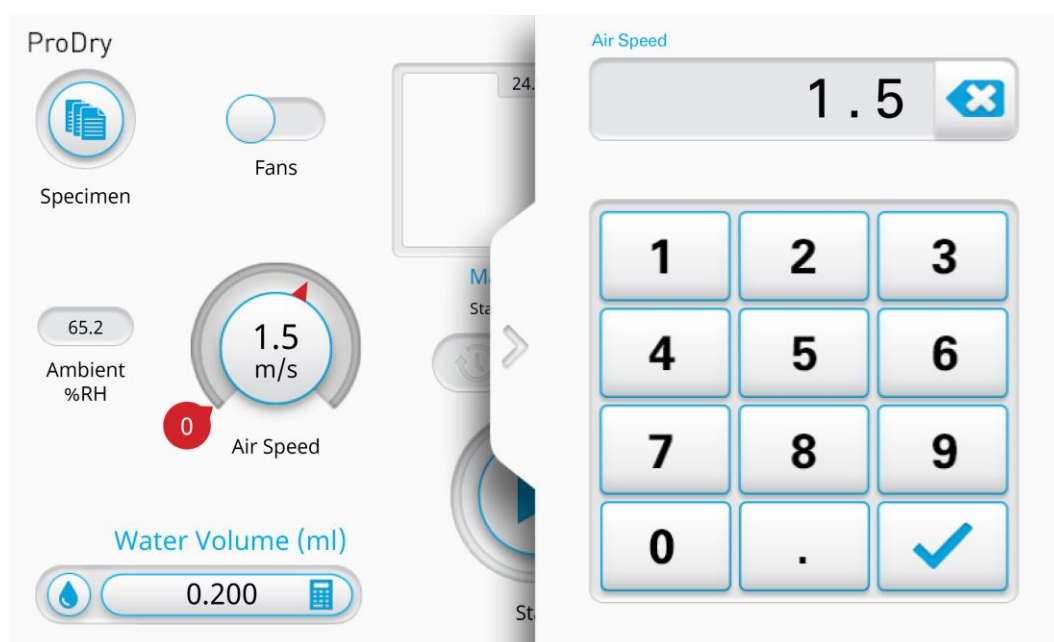


Graph: Automatically plots the data as it is recorded providing immediate visual feedback on current test.

Fans: Enables user to turn on and off the fans.

Specimen: Access to list of specimen's that have been tested. Add job description detailing the materials being tested. Access to test data, evaluate results before saving the data to a USB or uploading them to TestWise.

Air Speed Controls: The centre speed indicates the target air speed for testing. The outer indicator indicates the actual temperature, if the icon is red, not blue the ProDry has not yet reached the target test air speed. Select the centre of the air speed icon to change the air speed, deviating from the standard.



Ambient %RH: Displays the test chambers relative humidity.

Prime Water Pump: Press and hold the water droplet icon to ensure there is no air in the system and the automatic dosing mechanism is functioning correctly.

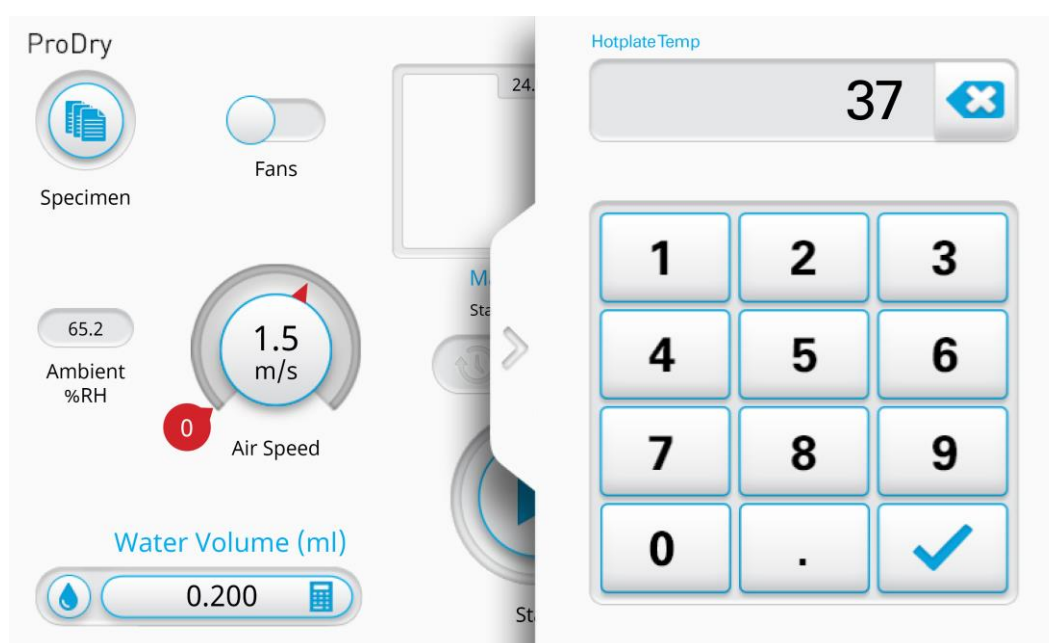
Set Water Volume: The calculator icon enables a change in the amount of water the pump will automatically prime the test sample with. The ProDry will be automatically set to 0.2ml for the AATCC - 201 Drying Rate of Fabrics: Heated Plate Method.

Specimen Temperature: Current temperature of the test specimen.

Test Start Time and Test End Time: The green lines indicate the start and end of the test.

Settings: Takes you to the settings menu.

Hotplate Temperature: The centre temperature indicates the target plate temperature for testing. The outer indicator indicates the actual temperature, if the icon is red, not blue the plate has not yet reached the target test temperature. Select the centre of the hotplate icon to change the temperature, deviating from the standard.



Ambient °C: Ambient test chamber temperature.

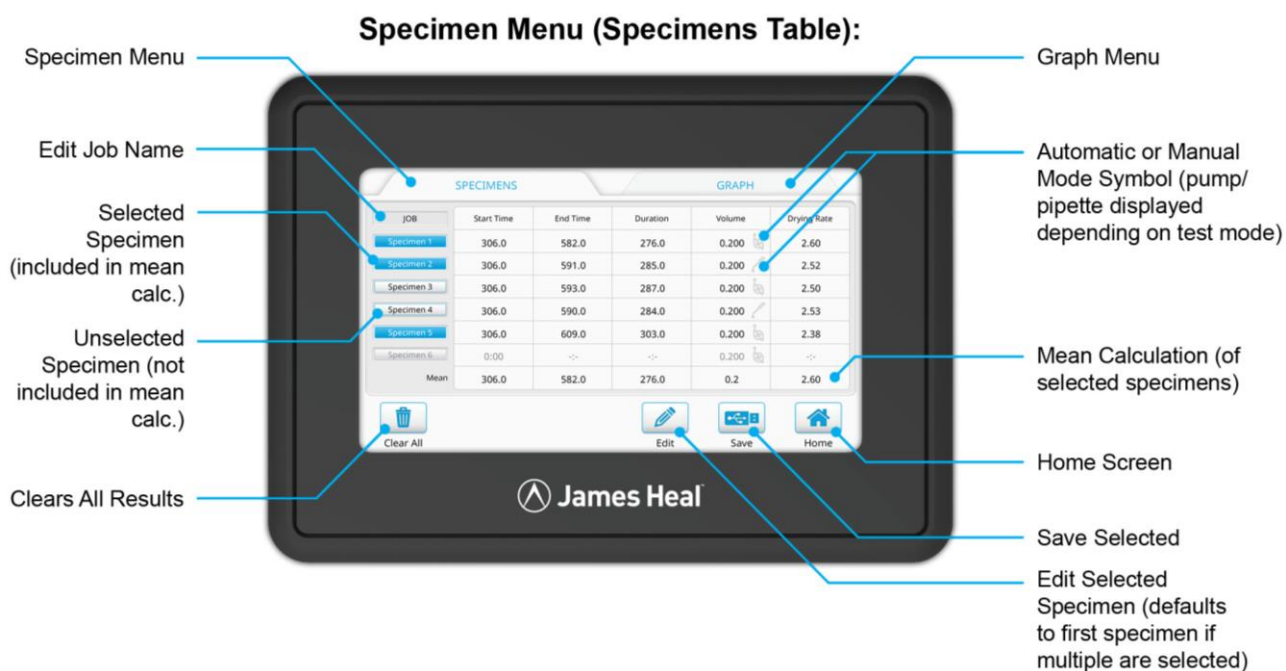
Test Status Bar:

- The clock icon indicates that ProDry is equilibrating the test sample with the heat plate before testing starts, taking 5 minutes as defined in the AATCC - 201 Drying Rate of Fabrics: Heated Plate Method.
- The water drop icon indicates that the ProDry is dosing.
- The heat plate icon will flash while drying/testing is in progress.

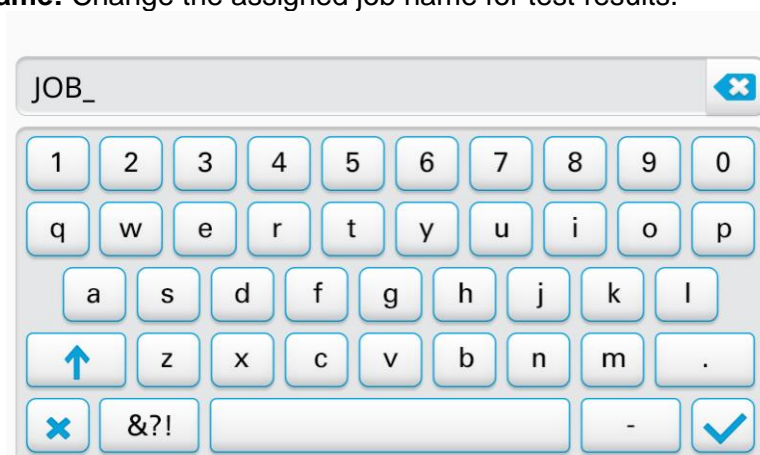
Test Duration:

Equilibration Time (left): Five minute equilibration time, plus the automatic dose or manual dose time.

Drying Time (right): Indicates the time that the specimen has been drying for.



Job/Edit Job Name: Change the assigned job name for test results.



Selected Specimen: Blue highlighted button indicates which tests you have selected. Enabling you to save or edit the test data.

Unselected Specimen: Un-highlighted buttons indicate unselected tests.

Clears All Results: Deletes all test results. Ensure you save your data before clearing memory for your next set of tests.

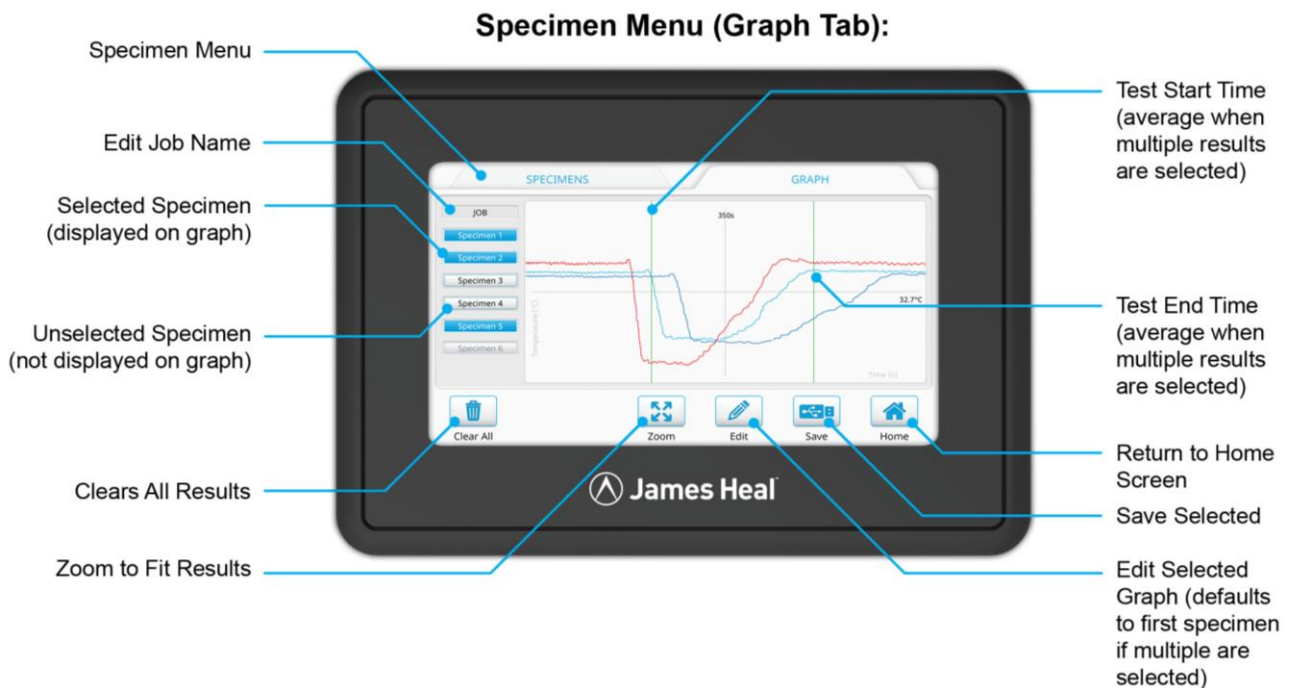
Graph: Takes you to the graph menu which allows comparison and evaluation of test data before being exported or saved.

Automatic or Manual Mode Symbol: Indicates if the test was a manual or an automatically dosed test.

Mean Calculation: Indicates the mean dry rate of selected tests.

Home: Returns to home screen view.

Save Selected: Saves selected results to connected USB device.



Specimen Menu: Returns you to specimen table.

Job: Change the assigned job name for test results.

Selected Specimen: Blue highlighted button indicates which tests you have selected. Enabling you to save or edit the test data.

Unselected Specimen: Un-highlighted buttons indicate unselected tests.

Clears All: Deletes all test results. Ensure you save your data before clearing memory for your next set of tests.

Zoom: Fits results to graph area. You can zoom in and out by stretching and pinching your thumb and index fingers.

Test Start Time: Indicates the start of a test and will move to provide an average when multiple tests are selected.

Test End Time: Indicates the end of a test and will move to provide an average when multiple tests are selected.

Home: Returns to home screen view.

Save Selected Saves selected results to connected USB device.

Edit: Enables graph sample points to be refined and variables to be changed on manual tests.

Specimen Menu (Edit Specimen):



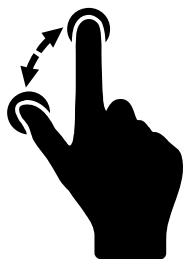
Specimen 1: Displayed selected sample

Displays Test Data: Duration & Drying Rate

Points on Slope 1 & 2: Edit number of points used to plot slopes defining the test end time.

Water Volume: Enter the water volume for your manual dosed tests.

Zoom: Fits results to graph area. You can zoom in and out by stretching and pinching your thumb and index fingers.



Stretch
Used to zoom into selected area.

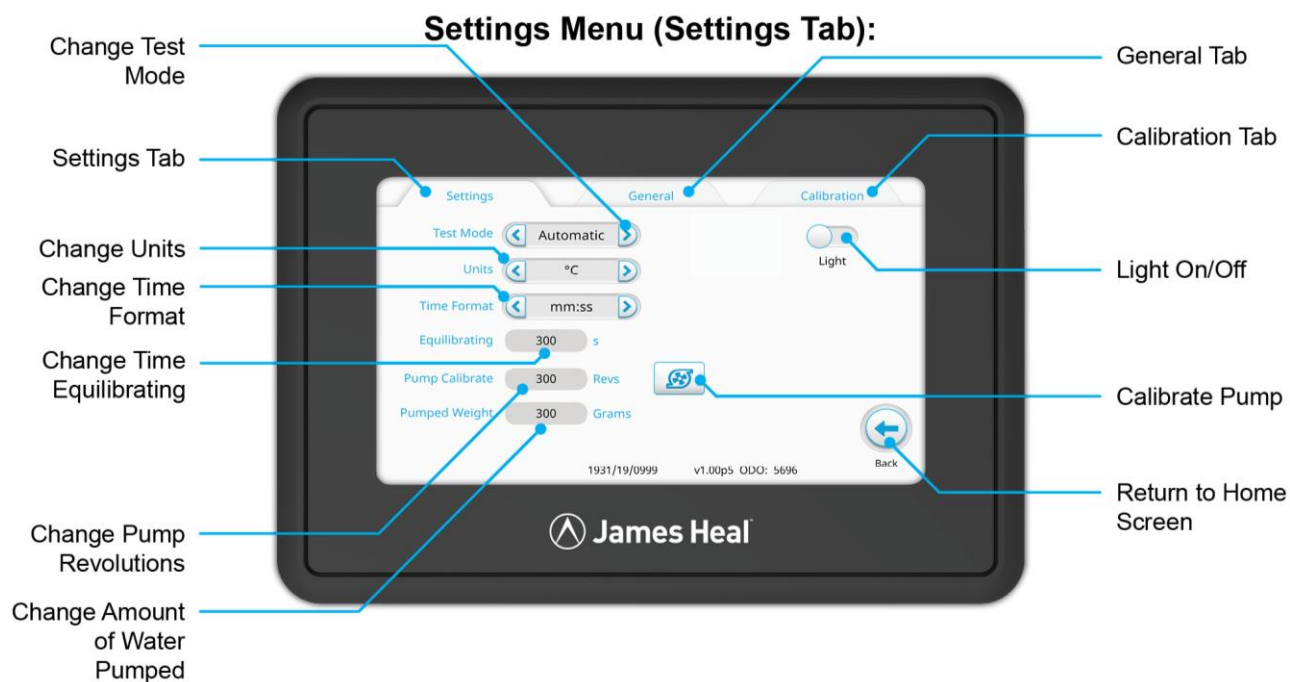


Pinch
Used to zoom out of a selected area.

Edit Slope Position: Change the point

Undo: Resets all changes made.

Exit: Return to graph tab.

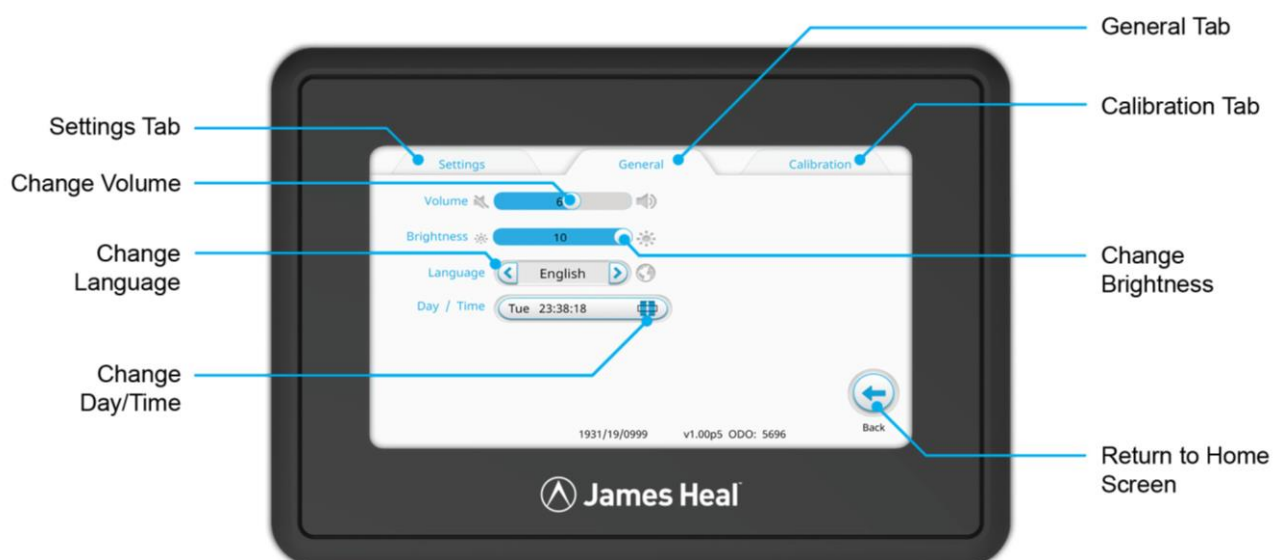


Test Mode: Change test mode between Automatic and Manual Dosing.

General: Access to general instrument settings.

Calibration: For access by James Heal service engineers.

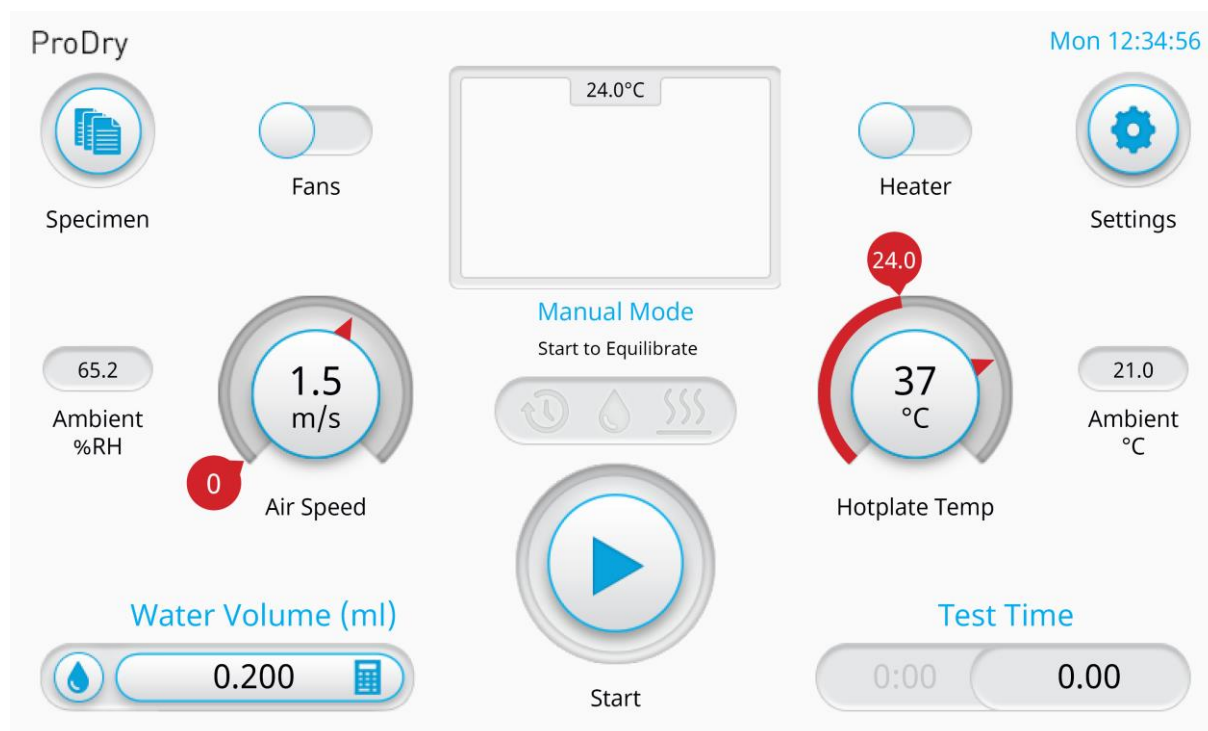
Calibrate Pump: Press once to start pump, the pump will cycle for the number of input revolutions specified. This will start to purge the system of air any air. Press again to stop before the cycle has finished.



8. OPERATION

ProDry must be connected to an appropriate power source before use – refer to Section 6 of this guide for further details.

To switch on the instrument use the on/off switch on the left hand side of the machine. When powered on either side of the heat plate will illuminate and the touchscreen interface will display the Home Screen.



The following sections describe the operation and data analysis for ProDry testing in accordance with AATCC - 201 Drying Rate of Fabrics: Heated Plate Method.

The rooms relative humidity should be no more 65 ± 2 % and the ambient temperature should be no 20 ± 2 °C, as specified in ISO 139.

Warning

The interface has been pre-set to the operation of AATCC - 201 Drying Rate of Fabrics: Heated Plate Method, proceed with caution when adjusting pre-sets.

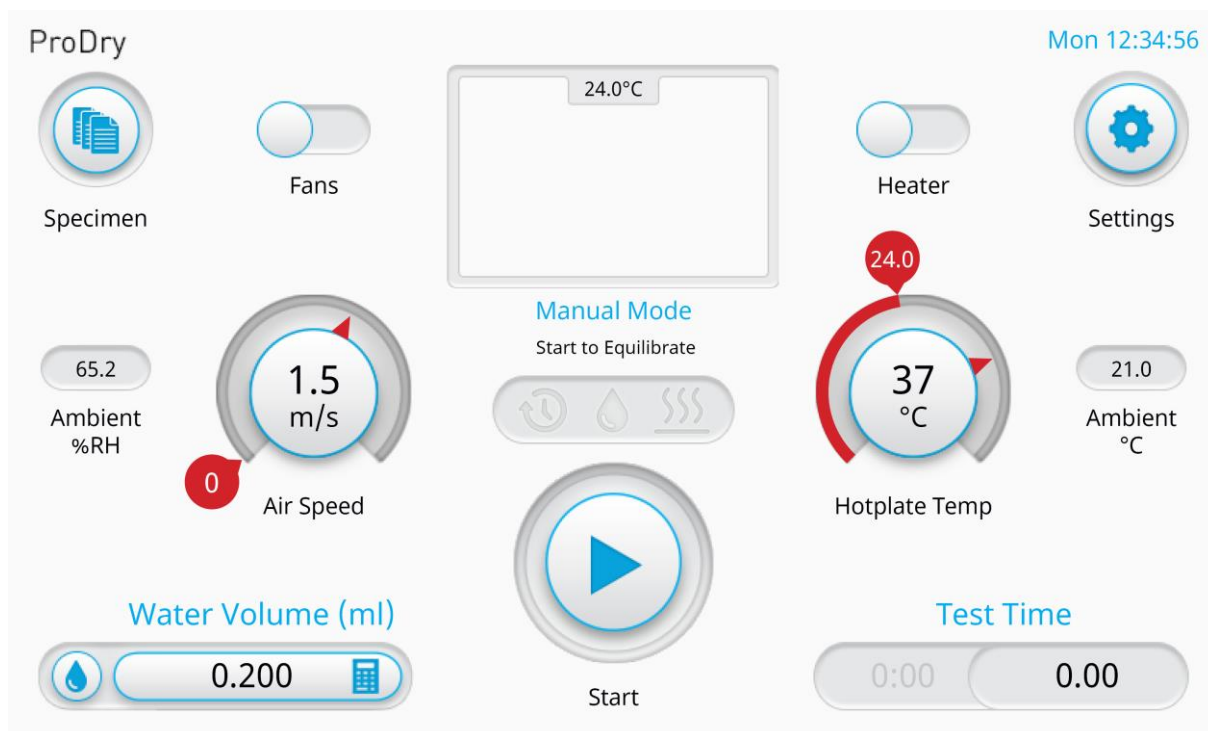
8.1. Test Preparation

1. ProDry must be connected to an appropriate power supply before it can be operated. The water reservoir should also be filled with deionised/distilled water.
2. When it has been switched on the lights at the side of the chamber will illuminate and the touchscreen interface will display the Home Screen as shown below.
3. The Fans and Hotplate are switched off by default. They can be activated by pressing the respective toggle buttons. The Air Speed and Hotplate Temp values will stabilise at the default settings (1.5m/s and 37°C).
4. If using Automatic Mode, the water delivery system must be primed before a test can be performed, to ensure that there is no air trapped in the tubing between the reservoir and pump. This can be done by pressing and holding the Priming Button.

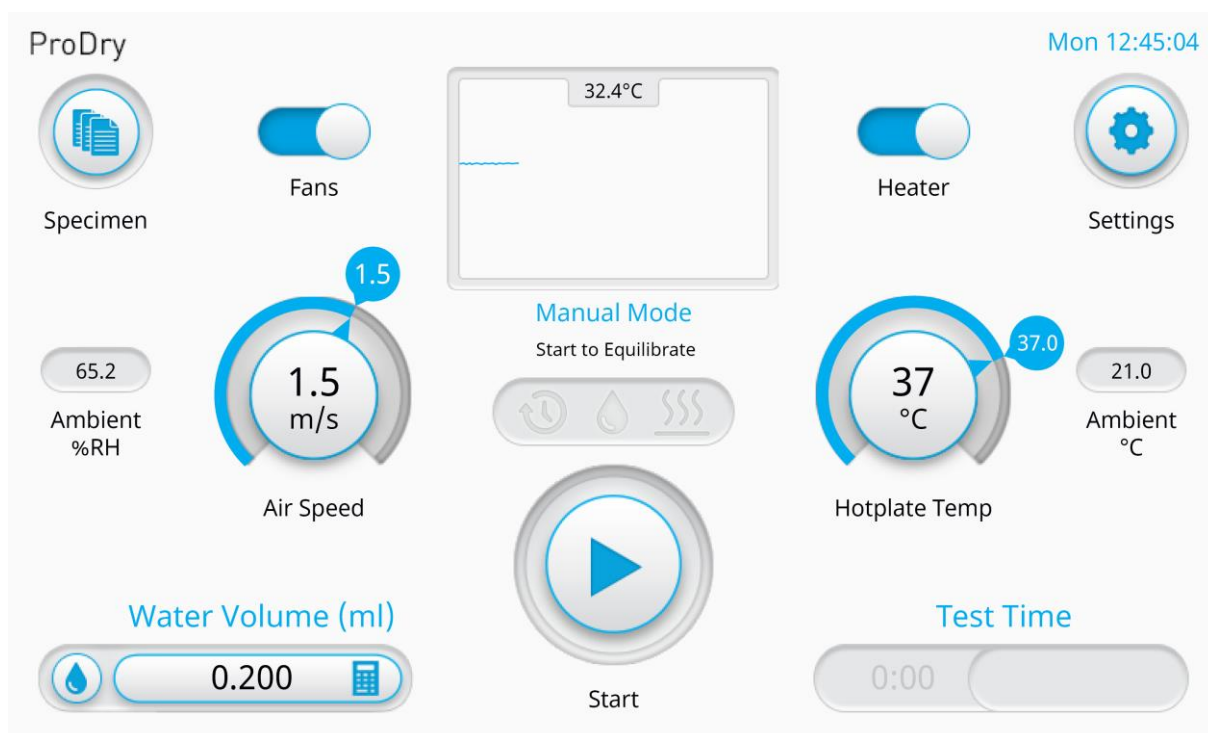


8.2. Manual Mode Test Procedure

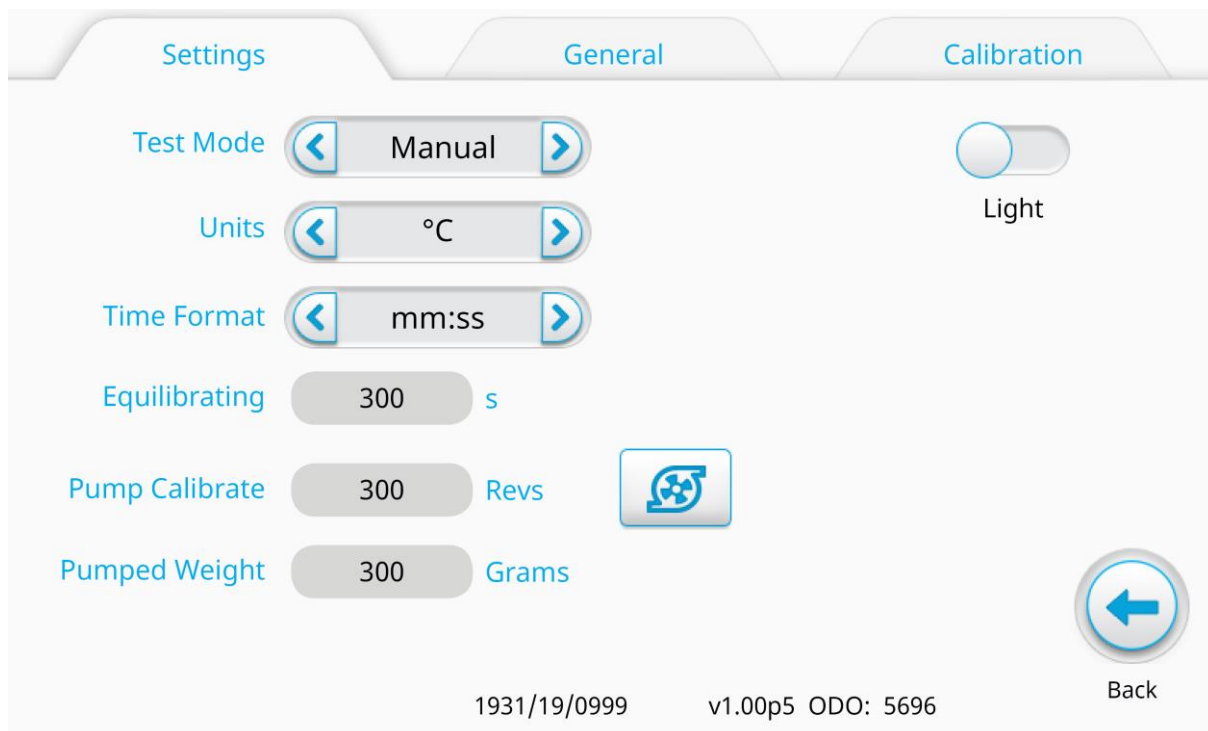
1. Switch on ProDry using the button at the back left of the instrument.



2. Press the Fans and Hotplate toggle buttons on the touchscreen to activate them (they will automatically default to the values specified in the AATCC Test Method 201.) Toggle the fan and heater switches and wait for the air speed and hotplate temperature to reach values specified.



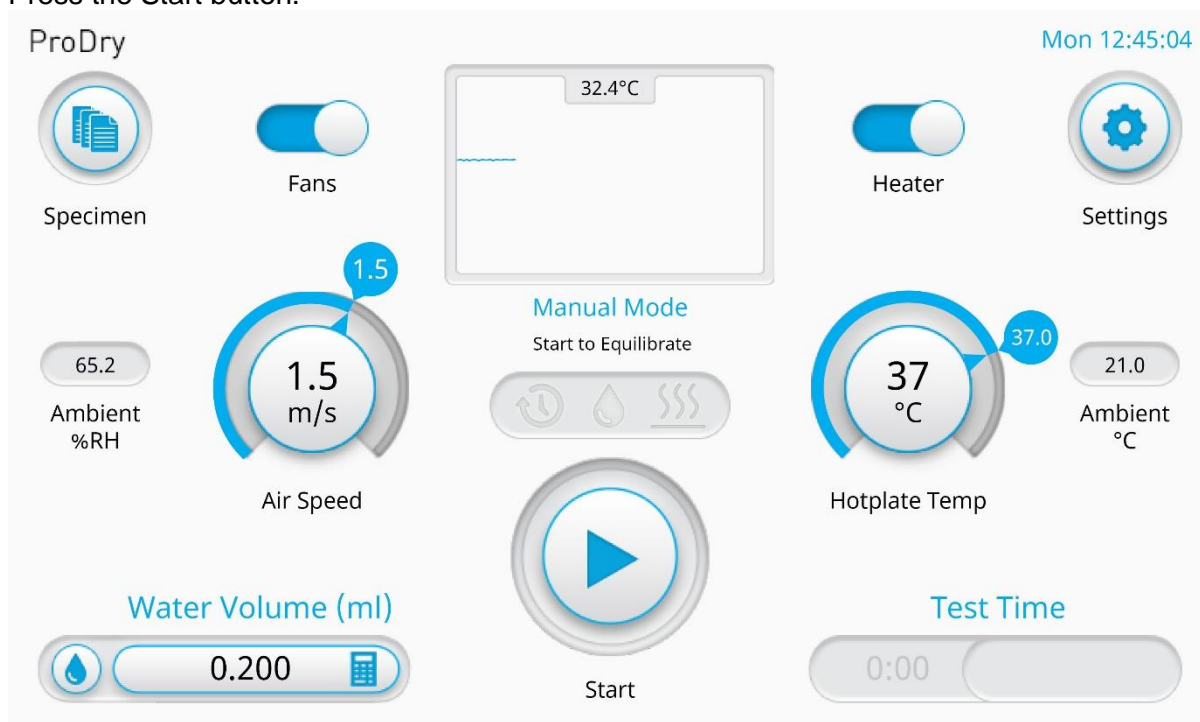
3. Go to settings and change the Test Mode from Automatic to Manual.



4. A 150mm X 150mm rectangular test specimen must be prepared and conditioned in accordance with the standard.
5. Raise the Infra Red Temperature Sensor. First unlock the temperature sensor with the lock knob and raise or lower the sensor using the height adjust wheel
6. Lift the lid and place the specimen centrally on the Hotplate.
7. Secure the top edge of the specimen (the one closest to the air filter) in place with the magnetic strip.

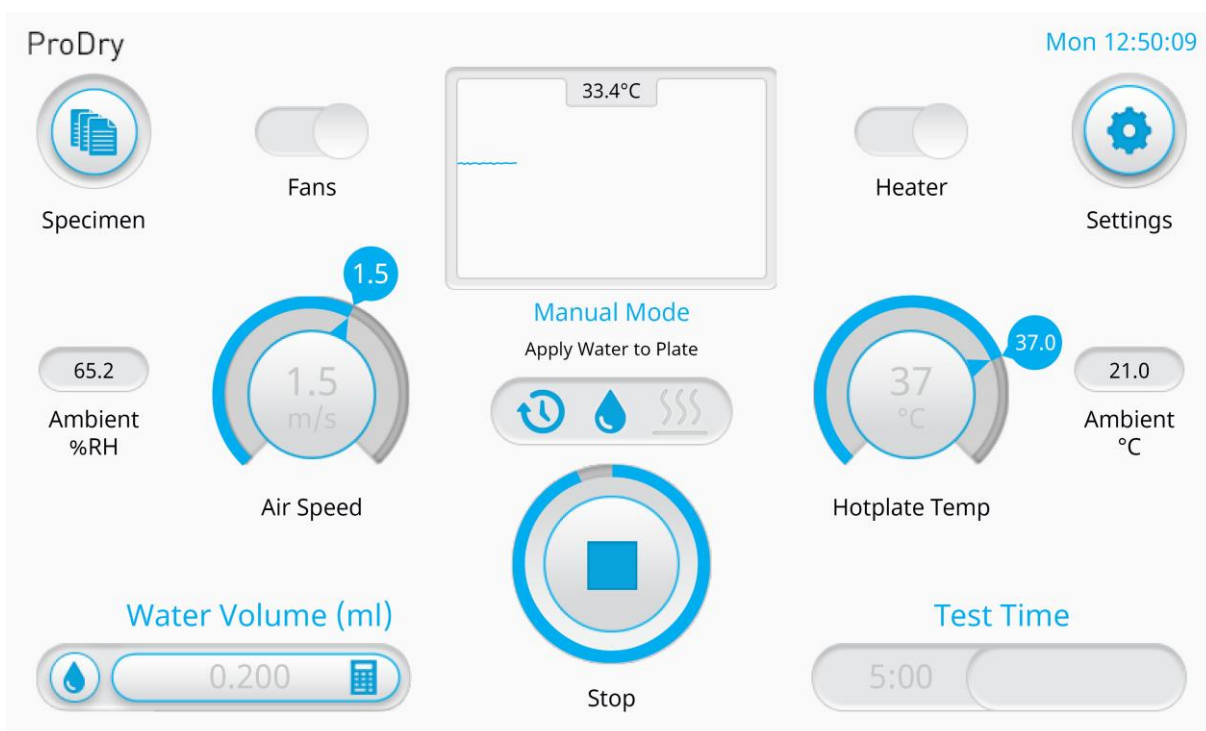


8. Place the 10mm Setting Gauge in the centre of the top surface of the specimen.
9. Close the lid and adjust the height of the Infra Red Temperature Sensor so that it is 10mm above the surface of the specimen.
10. Lock the Infra Red Temperature Sensor in position and remove the 10mm Setting Gauge.
11. On the touchscreen, enter the Water Volume that is intended to be delivered by Micropipette and ensure that the Air Speed and Hotplate Temp are set to the correct values and within tolerance (the display dials should be blue.)
12. Press the Start button.





13. The specimen will equilibrate for 5 minutes, after which time the user is notified by an audio signal and blue flashing lights that the water can be applied to the Hotplate.



14. Open the lid and lift the free end of the Specimen; apply the water to the centre of the Hotplate using a Micropipette.

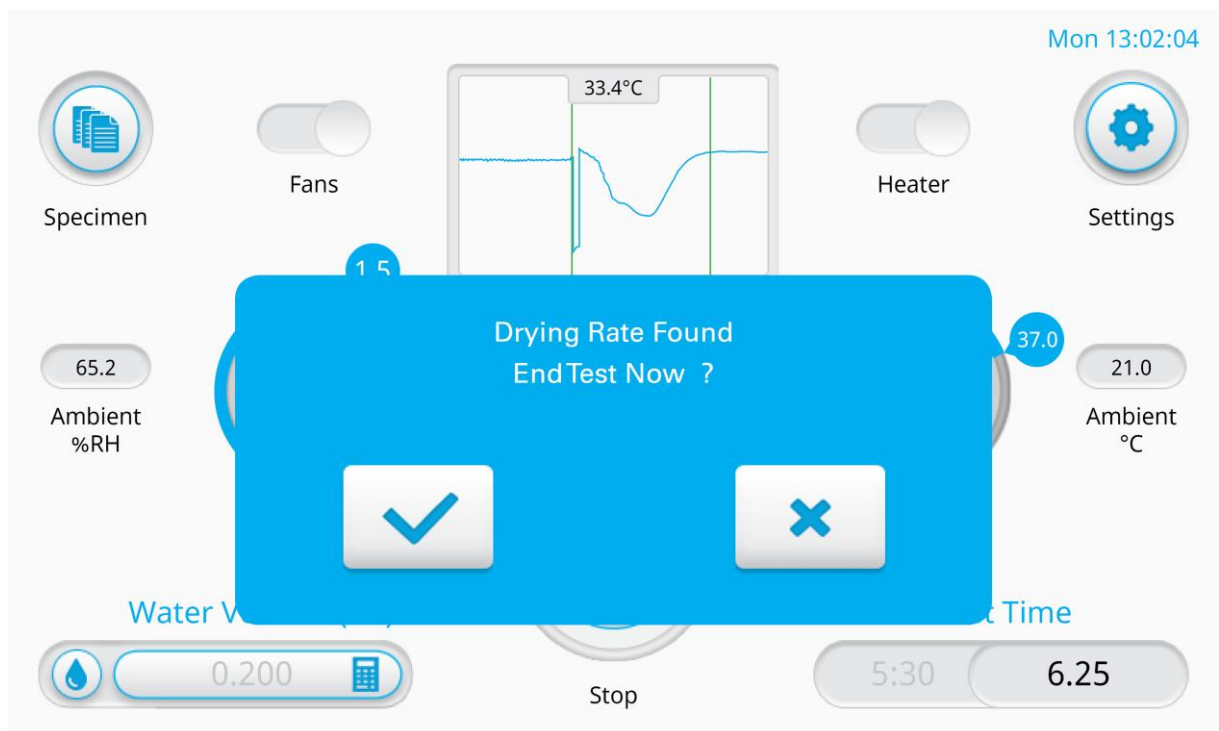


15. Lower the Specimen onto the water and simultaneously press the Start Button when it comes into contact with the water.

16. Close the lid.



17. ProDry will automatically calculate the End Time and notify the user when the test is complete.



You can choose to end the test when the drying rate has been detected automatically by pressing the tick, alternatively press the cross icon to extend the test time.

8.3. Automatic Mode Test Procedure

1. Switch on ProDry using the button at the back left of the instrument.
2. Press the Fans and Hotplate toggle buttons on the touchscreen to activate them (they will automatically default to the values specified in the AATCC Test Method 201.)
3. Ensure the water reservoir is full and follow the Priming Procedure to ensure that any air is removed from the water delivery system. (The Hotplate should be left clean and dry.)
4. A 150mm X 150mm rectangular test specimen must be prepared and conditioned in accordance with the standard.
5. Raise the Infra Red Temperature Sensor.
6. Lift the lid and place the specimen centrally on the Hotplate.
7. Secure the specimen in place with the Magnetic strip
8. Place the 10mm Setting Gauge in the centre of the top surface of the specimen.
9. Close the lid and adjust the height of the Infra Red Temperature Sensor so that it is 10mm above the surface of the specimen.
10. Lock the Infra Red Temperature Sensor in position and remove the 10mm Setting Gauge.
11. On the touchscreen, enter the desired Water Volume and ensure that the Air Speed and Hotplate Temp are set to the correct values and within tolerance (the display dials should be blue.)
12. Press the Start button to initiate the test.
13. The specimen will equilibrate for 5 minutes, after which time the user is notified by an audio signal and flashing lights that water is being applied to the Hotplate (this is performed automatically by the internal water pump, no action is required).
14. ProDry will calculate the End Time and notify the user when the test is complete.

9. RESULTS ANALYSIS

In order to calculate the Drying Rate, the Start Time and End Time must first be determined.

The Start Time is recorded as the moment that the specimen comes into contact with the water.

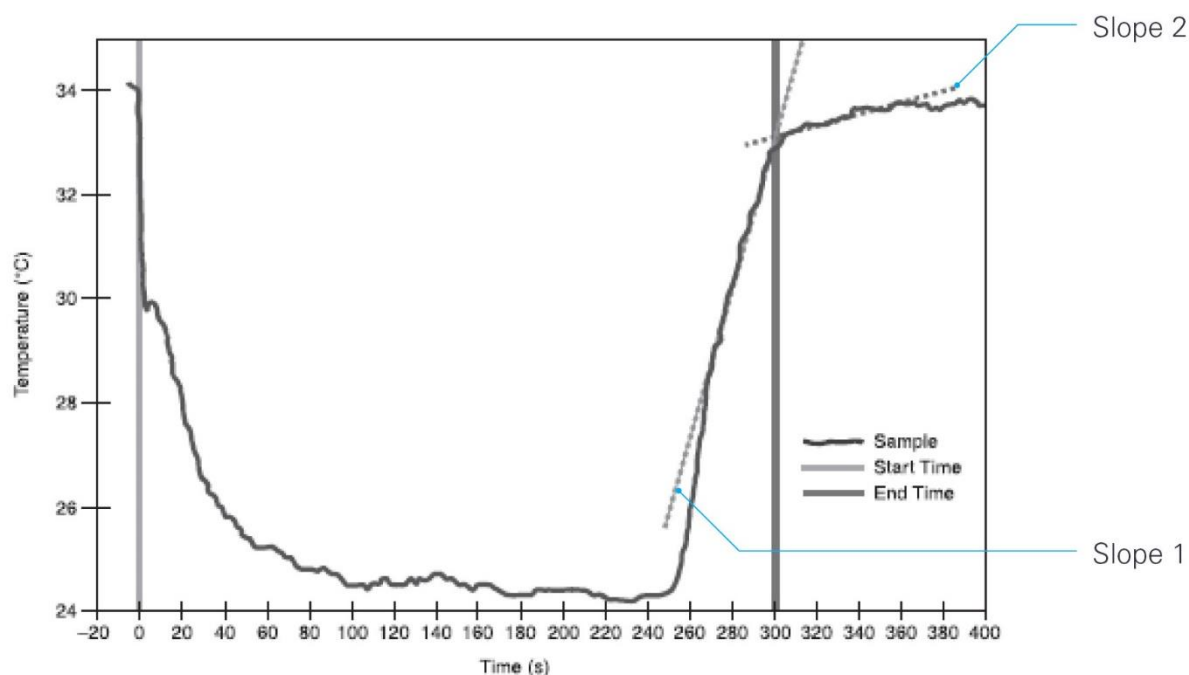
The End Time is more complicated and requires plotting the temperature of the specimen over time.

The End Time is determined by find the intersection of two slopes plotted on this graph.

Slope 1 is drawn by generating a linear fit for the steepest section of the plot by choosing 7 data points within the steepest portion of the graph.

Slope 2 is drawn by generating a linear fit for the flat section of the plot by choosing 25 data points after the inflection in the temperature plot.

A typical graph is shown below, taken from the AATCC Test Method:



The ProDry software is able to analyse the temperature plot during a test and automatically calculate the Test End Time and Drying Rate.

The selection (and quantity) of the data points mentioned above can have a significant impact on the calculation of the Test End Time, therefore the software includes an 'Edit' mode where the user can alter the selection of these data points and increase the number of points selected on each slope. (See Results Analysis: Editing Graphs for more information.)

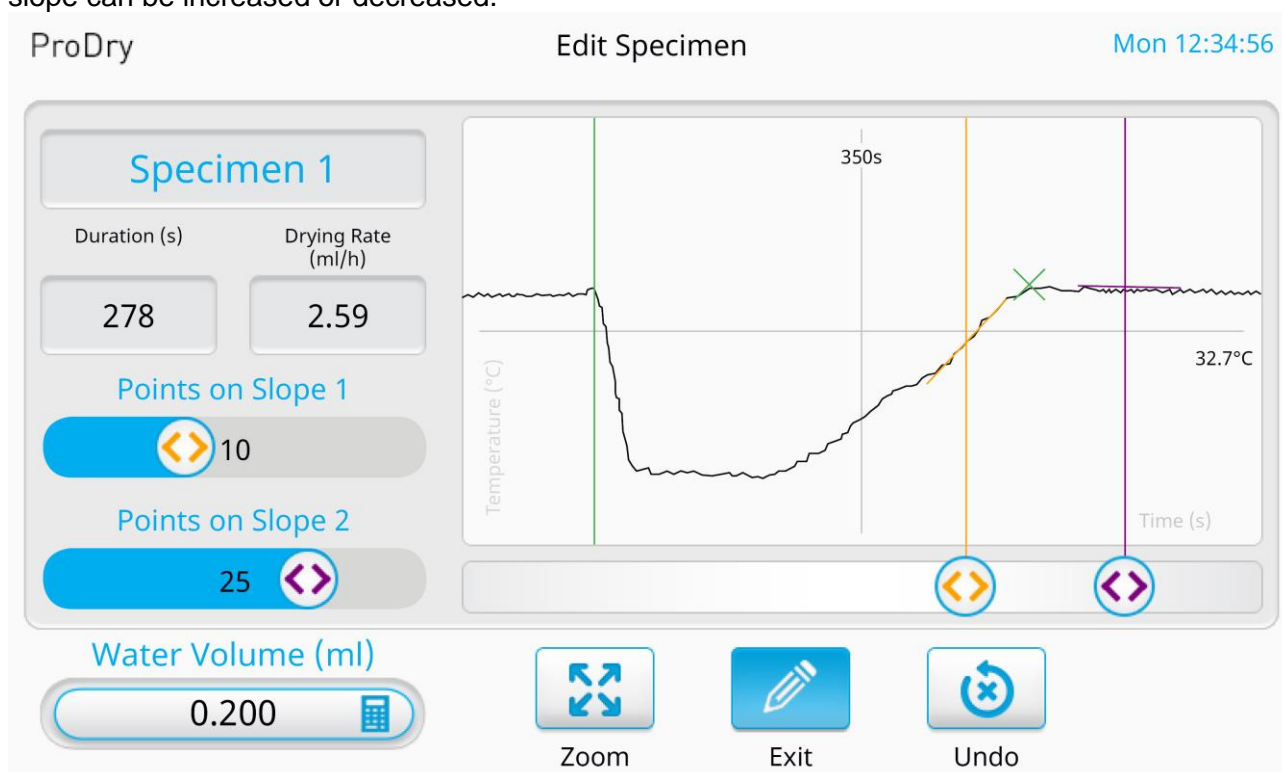
When the software automatically determines the Test End time the user is notified and given the option to continue testing in case they wish to collect any more data points for analysis.

9.1. Editing Graphs

The selection of the data points used for plotting the intersecting slopes, can have an impact on the calculation of the Test End Time. The same is true of the number of data points selected.

ProDry automatically calculates an End Time using the number of data points specified in the AATCC Test Method (7 points of Slope 1 & 25 points on Slope 2). However, following internal testing, James Heal have found that increasing the number of data points can provide more accurate and consistent results.

As a result, ProDry includes an Edit Specimen mode, where the number of points for each slope can be increased or decreased.

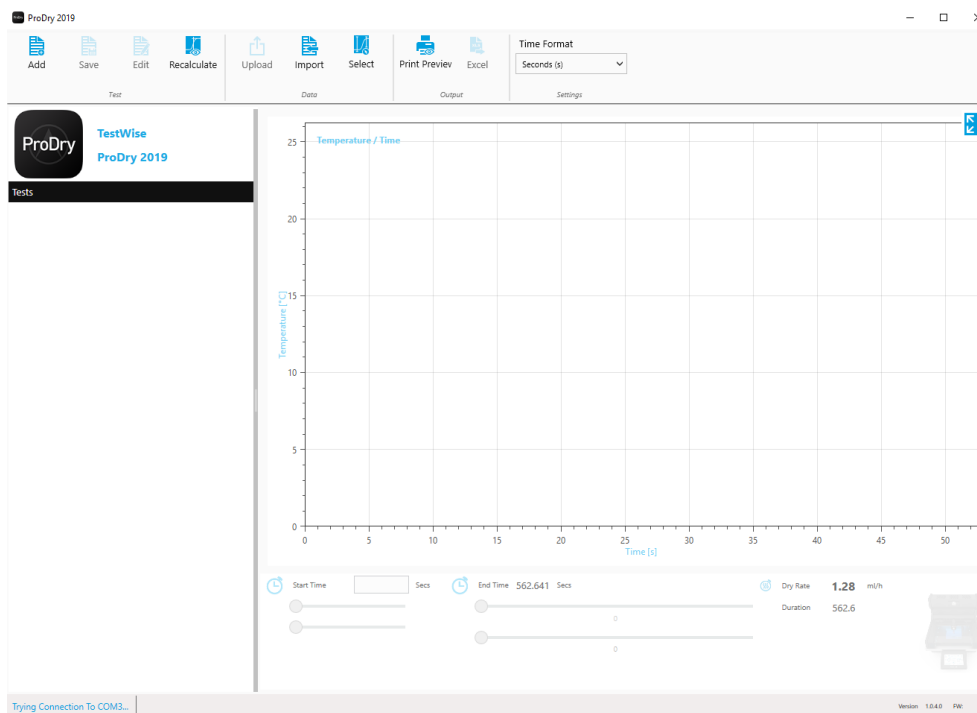


The user can decide to save these alterations or undo any change and revert back to the automatically calculated result.

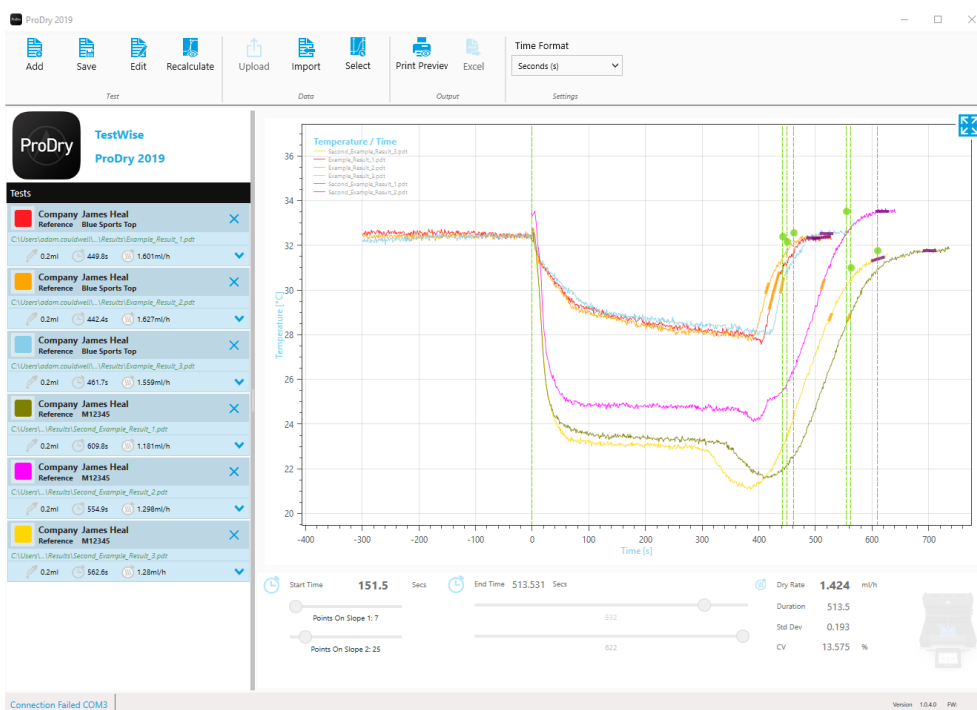
10. TESTWISE FOR PRODRY

10.1. Quick Start Guide

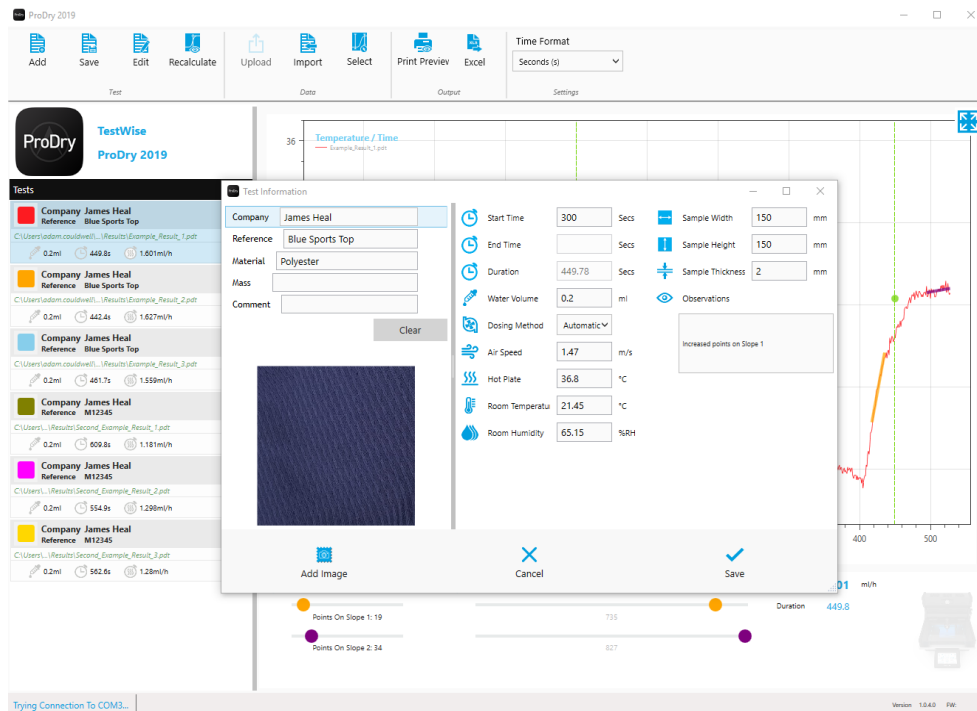
1. Connect computer to ProDry using a USB-B cable, ProDry will automatically establish a connection with TestWise.



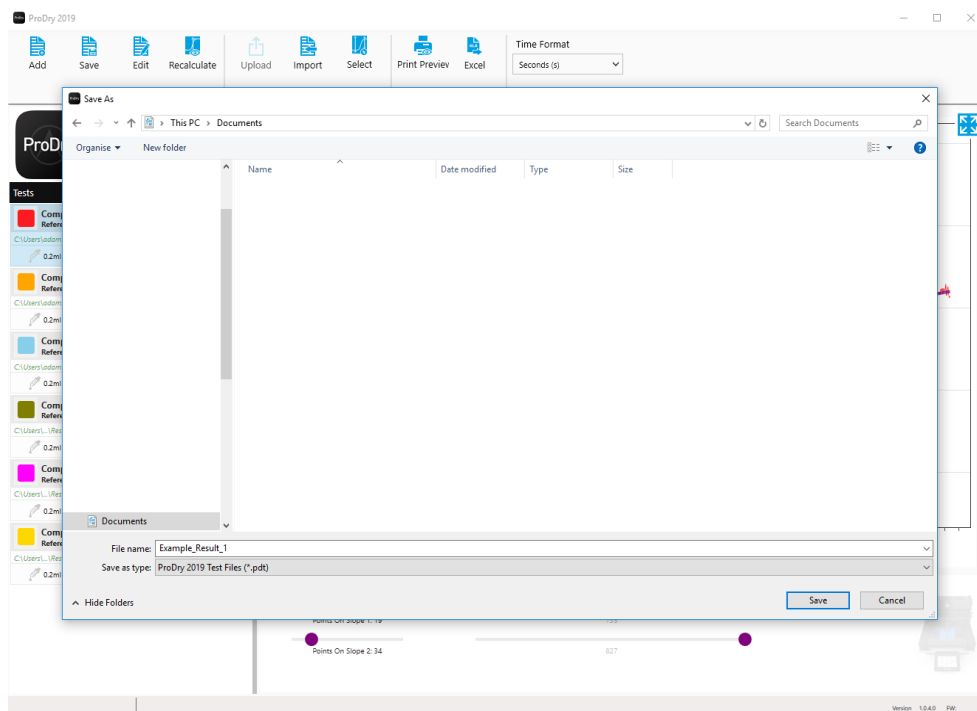
2. To upload new test results, highlight which tests need to be transfer from the ProDry touch interface, then select Upload. Upload is located in the top navigation panel on the TestWise software.



- Once the test data has been uploaded, additional information on the tests can be added. Double click on the sample you want to amend.



- This screen shows what additional information can be added to the test sample.
- Users can also adjust the start time and end time, important when performing manual tests. This can be done by adjusting the sliders below the graph.
- Ensure the test results are saved once additional information has been added to the imported data. Select save, ensure this is done before clearing the test results from the ProDry.



10.2. TestWise for ProDry Features

- Easy adjustment of drying end time. (Intersection point)
- User adjustable specimen details. (Reference, size, weight, batch number, manufacture date)
- Embed photograph of the specimen inside the test result.
- Compare multiple results, from new and archived test data.

11. FAULT FINDING

Fault	Probable Cause	Action
The equipment does not power on.	No power supply to equipment.	Check if plug is connected. Check if power is switched on.
Auto dose not functioning - <i>Bubbles appearing through auto dosing hold.</i> <i>Use deionised distilled water.</i>	Air in system. Pipe aging - may need replacing, use manual dosing while replacement is being organised.	Check that the system has been purged of air before commencing testing. Perform multiple purging cycles after changing water. Organise replacement of water delivery tube by a service engineer. Check pipe for “kinks” restricting water flow.
Erratic Air Flow - <i>Varies from target test speed.</i> - Anemometer not working	Blocked filter located at the rear of the filter plate. Not all fans functioning. Anemometer wrongly aligned.	Replace ProDry air filter. Replace faulty fan / unblock fan. Check Anemometer is fitted correctly and the green arrow is pointing toward the front of the instrument. Check dust cap is removed.
USB not recognised	USB with large memory capacity, faulty.	Use a well-known brand of USB, 32gb or less.
Computer not recording live results.	ProDry does not send live results to the computer.	Use the upload button via TestWise to transfer test data from the ProDry.

Warning

If the above action does not resolve the problem or the problem is not listed, switch off the unit and call a qualified technician for assistance.

12. SERVICE & CALIBRATION

James Heal Service & Calibration is a totally comprehensive, worldwide support programme. When you buy instrumentation from us, it is the beginning rather than the end of an association.

Our aim is simple:

To provide precisely the services you need to maintain and protect the value of your investment.

For any enquires you may have regarding your instrument please contact James Heal Service & Calibration by e-mail, phone or fax.

In all communications please quote the serial number of your instrument and the software version number, e.g., 1616/16/1001 and V1.00.

James Heal Service & Calibration contact details:

Telephone +44 (0) 1422 366355

12.1. Software

Please contact your installer or agent regarding software updates, or if you experience any bugs with your software.