



OPERATOR'S GUIDE



GyroWash²

Washing and Dry Cleaning Colour
Fastness Tester

UniController

James Heal's
signature user interface

Covering Serial Numbers
1315/8/13/1000
1315/20/13/1000
& upwards

Extraordinary Testing Solutions

James H. Heal & Co. Ltd.
Halifax, England

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Setting the Standard



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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 plastics

INTRODUCTION

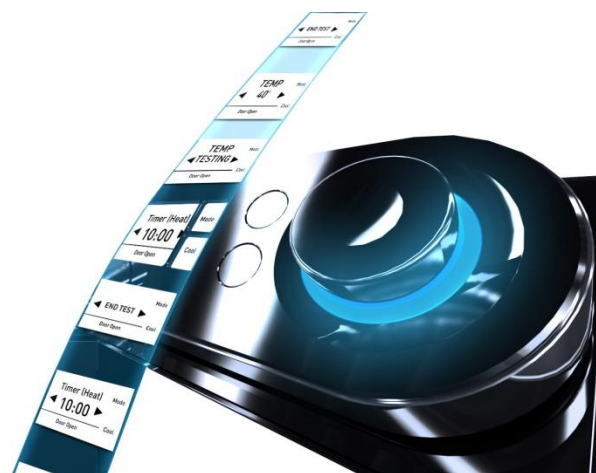
GyroWash² – Washing and dry cleaning colour fastness tester

The GyroWash² 1315 Series is the first GyroWash to be designed with James Heal's unique product signature and has been produced completely with the user in mind. We have combined James Heal's technical and performance expertise, with intuitive design and operation to produce the most ergonomic and user friendly GyroWash ever.

- GyroWash² is used to investigate the colour fastness to washing, dry cleaning and chlorinated water of textiles and leather.
- GyroWash² complies with international colour fastness testing standards and is approved by many leading retailers.
- The 1315 series of instruments can accommodate both small and large test vessels without adaptor plates, making it possible to use one instrument for both European and American Standards.
- There are 2 models of GyroWash² to choose from, an 8 test vessel and a 20 test vessel model. To reflect the differing volumes of work depending on the end user.
- Two sizes of test vessels meet the requirements of the different standards – small (525ml) and large (1200ml).
- The GyroWash² is supplied without test vessels which must be ordered separately.
- To complete the GyroWash² portfolio, there is a comprehensive range of accessories and Test Materials – in fact, everything required to start testing immediately.

Features

- Sleek, ergonomic design.
- James Heal's unique UniController user interface for incredible ease of use.
- Easy loading and unloading of pots due to our all new pot connection mechanism.
- Dedicated working area, with removable spillage tray.
- Inbuilt document holder for safe and convenient storage of associated standards and standard operation procedures.
- Easy access fill and drain points
- Proven performance in wet testing environment.
- Integrated stand, set at comfortable working height



Service and Calibration

- Worldwide Service
- ISO 17025 based Calibration Service
- 18 Months' Warranty

Technical Assistance

- Operator Training
- Knowledge transfer
- Applications Support
- Engineering Support

STANDARDS

GyroWash² fully complies with the following standards

Small Test Vessel (525ml) (Type 1 canister)

- AATCC TM 61-1A, 132, 151
- EN 20105 C01, C02, C03, C04, C05
- ISO 105 C06, C08, C09, C10, C12, D01, E03, X05
- ISO 11643
- BS 1006: UK-LE, UK-TO
- M&S C4A, C5, C10A, C22, C23, C37, P3B
- FTMS 191 Methods 5610/5621
- NEXT TM 2, 2A, 3, 3A, 5
- WOOLMARK TM 193, 250, 294, 300

Large Test Vessel (1200ml) (Type 2 canister)

- AATCC TM 61-2A, 61-3A, 61-4A, 61-5A, 86

SAFETY

GyroWash² has been specifically designed with the Operator's health and safety in mind. All touch points are engineered to give an excellent and safe user experience.

To ensure your safety, please observe the following points at all times:

- Read this manual carefully before operating the machine.
- Observe the installation requirements for correct machine performance.
- GyroWash² can achieve bath temperatures (up to 95°C) that could cause injury if operated incorrectly. The operator must wear heat-resistant gloves to protect hands and arms when loading and unloading the instrument. Operators must always stand to one side, when opening the lid of the instrument, to avoid any hot water vapour or steam from the bath.
- GyroWash² is not suitable for temperatures above 95°C.
- The GyroWash² bath should be filled with water only, it is not suitable for any other heating medium.
- Many different solutions can be used in the Test Vessels. The operator should refer to the safety instructions for the solution being used, either from the testing standard or any associated Material Safety Data Sheet (MSDS).
- These instruments are heavy and must be moved with care.
- Have the machine serviced and calibrated at least once a year by a James Heal Service and Calibration Engineer.

FIRST TIME INSTALLATION

If you are commissioning the GyroWash² unit, please read the following sections in the following order.

Note: They may not necessarily appear in the same order in the manual as listed below. If you are using a softcopy of the manual, you can click on each section in turn in the contents menu or on the links below and the document will automatically skip to the correct page.

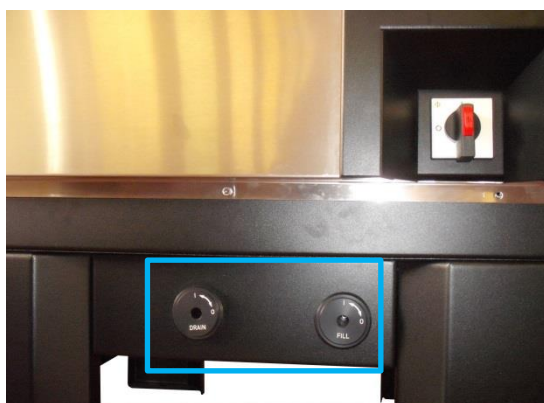
- [Unpacking](#)
- [Installation](#)
- [Services – Including all sub-sections](#)

Once the GyroWash² is commissioned, please read

- [The Essential Features of GyroWash²](#)
- [Introduction to UniController](#)
- [Test Vessels – Including all sub-sections](#)

THE ESSENTIAL FEATURES OF GYROWASH²

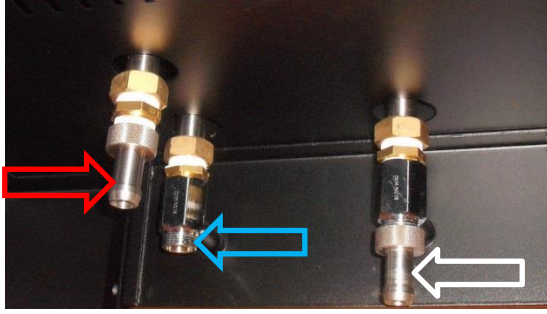
GyroWash² has been designed with functionality and safety at its core. With all the essential features at your fingertips, this is the most user-friendly and intuitive GyroWash we have ever produced. Combine this with our state of the art UniController and dedicated working area and you have an instrument worthy of any laboratory.



Filling the GyroWash²

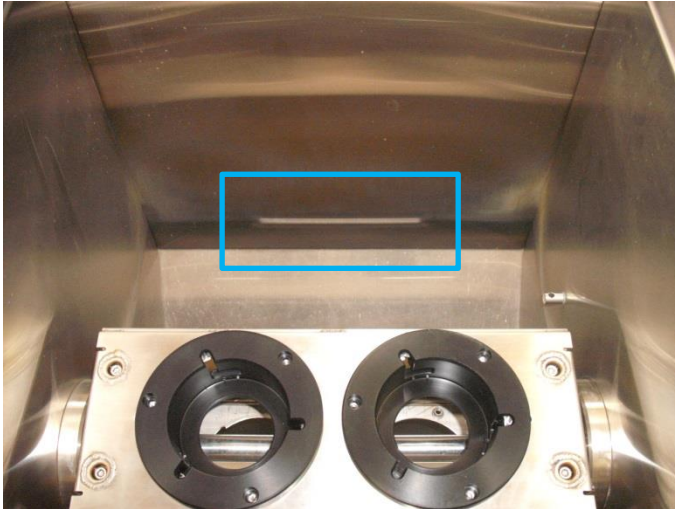
The GyroWash² can either be filled manually from a hose Pipe or bucket or by plumbing the system in to the mains water supply and drainage.

Note: If filling the GyroWash² manually, you must ensure that the Drain and Fill Operation Knobs are closed (set to 0) beforehand. As highlighted by the blue rectangle (Left).



Viewed from Behind and underneath the GyroWash² – the fill connection is indicated by the blue arrow. The drain connection is indicated by the white arrow. The overflow connection is indicated by the Red arrow.

Note: See [‘Water supply and drain’](#) for specifics regarding plumbing in the GyroWash².



Whether filled manually or using the mains supply, the GyroWash² should be filled to the level indicator on the back of the bath wall. This is highlighted by the blue rectangle (left).



Designated working area

The GyroWash² further enhances the user experience by having its own dedicated working/pot filling area located to the right-hand side of the bath.

This comprises a removable mesh surface for standing of the Test Vessels and a removable spillage tray for capturing any accidental overflow from preparing the test.



To remove the mesh, place a finger in each of the large holes in the mesh surface. These are highlighted by the blue circles (Left).

The lift the mesh vertically in the direction of the blue arrow (left).

Note: Always use 2 hands to lift the mesh.



To remove the spillage tray, you now have access to 2 handles use these to lift the spillage tray vertically in the direction of the blue arrow (left).

Note: Always use 2 hands to lift the spillage tray.



Once removed the spillage tray can be emptied.

It can be cleaned if necessary with soap and warm water.

Replace the spillage tray and mesh in the opposite way to removing it.



To allow the user to periodically check the rotational speed of the rotor, GyroWash² comes with a viewing window and flag. Highlighted by the blue circle (left).

This flag is attached to end of the rotor shaft and the user can check the rotational speed using either an optical tachometer or simply visually with a stopwatch.

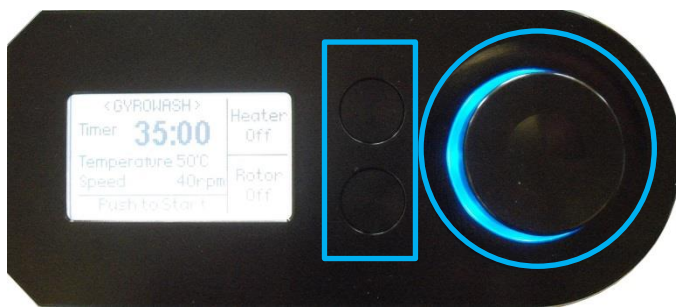
Note: This window is located on the left-hand face of the GyroWash². To enable easy access to the window you must leave this face visible when installing the machine.

INTRODUCTION TO UNICONTROLLER

The UniController is our all new, signature user interface. GyroWash² is the first James Heal instrument to exhibit the UniController, bringing new levels of ease of use and functionality. Elegantly designed, the UniController will reduce training times and can be used by all levels of operator.

Amongst its many features are

- Fast, easy editing of time and temperature settings.
- Close, accurate control of rate of rise and testing temperatures.
- Display of current rotational speed.
- Selectable temperature units (°C or °F)
- Auto-Start feature, once the bath has come to temperature.
- IP 64 Rated to ensure waterproofness



The James Heal UniController (Pictured) consist of

- A digital display
- 2 selection buttons (highlighted by the blue rectangle and
- A rotating encoder (highlighted by the blue Circle).

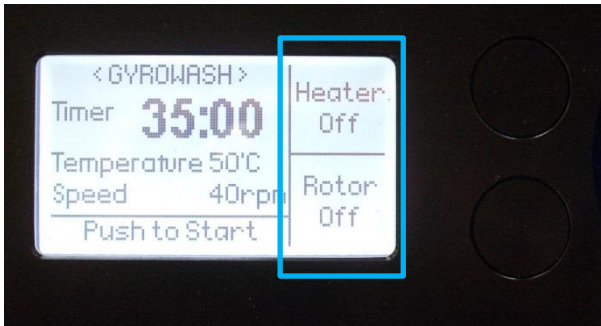


The UniController allows the user to control all aspect of the test conditions in a simple and intuitive way.

The display shows the user the defined test parameters; once the test begins it will show the live test information for time, temperature, and rotational speed.



For the purposes of this Operators Manual the top selection button will be called 'Button 1' & and the bottom selection button will be called button 2.

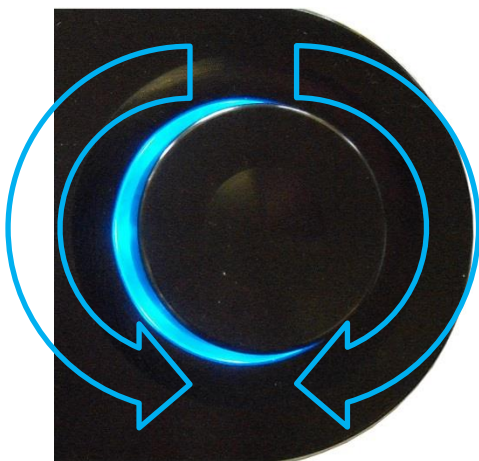


The selection buttons are used to choose the functionality that is displayed in the 2 boxes on the right hand side of the UniController screen (highlighted by the blue rectangle)



In this example – to toggle the heater on or off, you would press button 1.

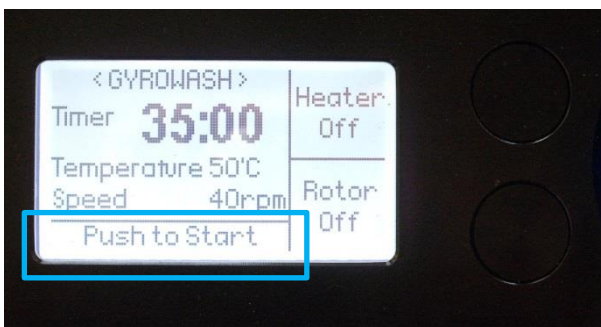
Note: The UniController screen is not a touch screen. All selections and amendments to test parameters must be made using either the selection buttons or the rotating encoder.



The rotating encoder is the main control mechanism on the UniController and is used to scroll through the test set up as well as be used to make changes to any of the test parameters.

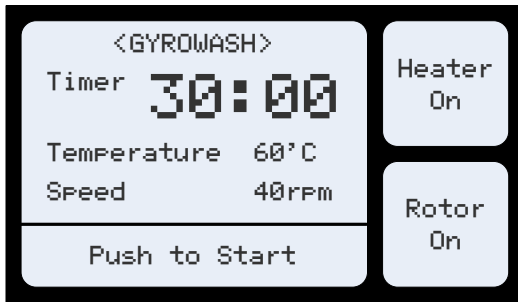
To operate it, it can either be rotated clockwise or anticlockwise as shown by the blue arrow

It also functions as a button, if pressed in the centre. This is used to confirm changes and to stop and start the test.



Anything displayed in the area at the bottom of the screen (highlighted by the blue rectangle) is selected by pressing the rotating encoder.

In this example, pressing the rotating encoder will begin the test.



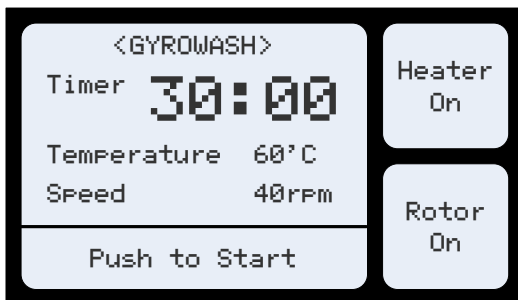
Test Information Screen

After powering on the GyroWash², the test parameters for the last test performed will appear on the screen.

If the test has not started, the information displayed here are ***the test parameters***.

If the test has started, the information becomes '**live**' and will show the actual bath temperature, rotational speed and countdown timer.

If all parameter are correct and you are ready to start, simply press the rotating encoder and the test will begin.



Start-up Settings

The UniController provides the user with the options to change the Volume, toggle between °C & °F and alter the language setting.

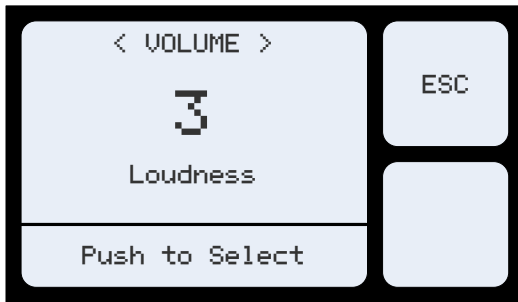
These settings are only available for 30 seconds ***each time*** the GyroWash² is powered on. After 30 seconds, they become set and will only be available again by turning off the electric supply to the GyroWash² and then reconnecting.

Setting the Volume

If you wish to make an adjustment to the volume of the UniController and the end of test alarm, from the Test Information Screen rotate the rotating encoder '1 click' anti-clockwise until the screen to the left is displayed.

Note: To make this selection, you must turn the rotating encoder in the first 30 seconds after powering up the GyroWash² in order to access this setting.





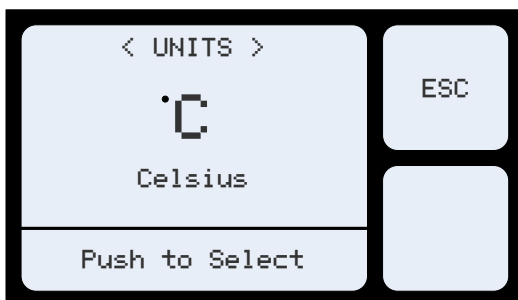
Pressing the rotating encoder, will select the current volume and allow you to make changes.

Rotate the Rotating encoder clockwise to increase the volume or anticlockwise to decrease it.

Once you have selected the desired volume, press the rotating encoder to confirm the changes.

Note: At any point **before** confirming the changes you can escape and cancel any amendments by pressing selection button 1.

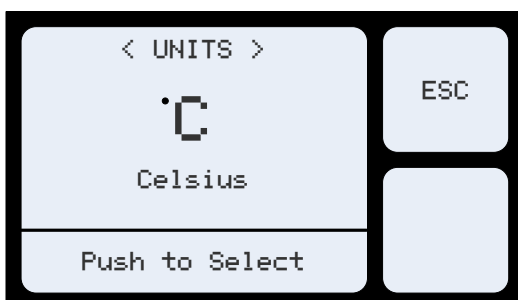
Either confirming the changes or escaping will return you to the Test Information Screen. Any changes you have made will now have overwritten the previous parameters.



Setting the Temperature Units

If you wish to change the displayed temperature units, from the Test Information Screen rotate the rotating encoder '2 clicks' anti-clockwise until the screen to the left is displayed.

Note: To make this selection, you must turn the rotating encoder in the first 30 seconds after powering up the GyroWash² in order to access this setting.



Pressing the rotating encoder, will select the current units and allow you to make changes.

Rotate the Rotating encoder clockwise or anticlockwise to toggle between °C & °F.

Once you have selected the desired volume, press the rotating encoder to confirm the changes.

Note: At any point **before** confirming the changes you can escape and cancel any amendments by pressing selection button 1.

Either confirming the changes or



escaping will return you to the Test Information Screen. Any changes you have made will now have overwritten the previous parameters.

Setting the Language

If you wish to change the language of the UniController display, from the Test Information Screen rotate the rotating encoder '3 clicks' anti-clockwise until the screen to the left is displayed.

Note: To make this selection, you must turn the rotating encoder in the first 30 seconds after powering up the GyroWash² in order to access this setting.

Pressing the rotating encoder, will select the current language and allow you to make changes.

Rotate the Rotating encoder clockwise or anticlockwise chose your desired language.

Once you have selected the desired language, press the rotating encoder to confirm the changes.

Note 1: At any point *before* confirming the changes you can escape and cancel any amendments by pressing selection button 1.

Note 2: Early models of UniController only have 1 language setting 'English'.

Either confirming the changes or escaping will return you to the Test Information Screen. Any changes you have made will now have overwritten the previous parameters.



Setting the timer

If you wish to make an adjustment to the duration of the test, starting from the Test Information Screen rotate the rotating encoder '1 click' clockwise until the screen to the left is displayed.

This will show your current test duration settings.



Pressing the rotating encoder, will select the timer and allow you to make changes.

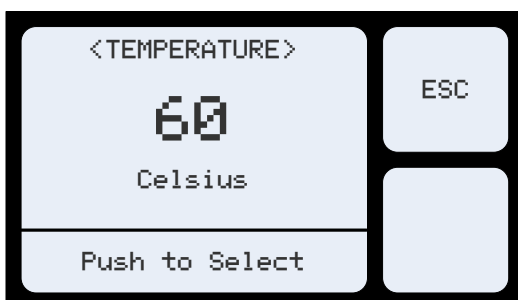
Rotate the Rotating encoder clockwise to increase the duration or anticlockwise to reduce it.



Once you have selected the desired test duration, press the rotating encoder to confirm the changes.

Note: At any point **before** confirming the changes you can escape and cancel any amendments by pressing selection button 1.

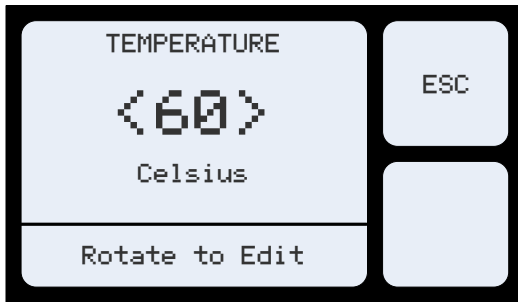
Either confirming the changes or escaping will return you to the Test Information Screen. Any changes you have made will now have overwritten the previous parameters.



Setting the Temperature

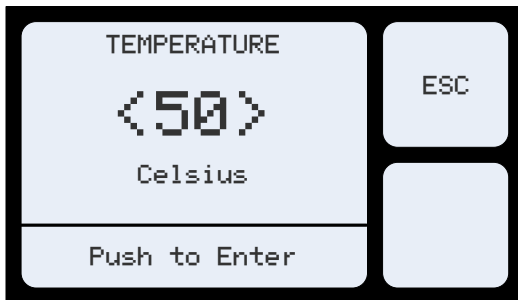
If you wish to make an adjustment to the temperature of the test, starting from the Test Information Screen rotate the rotating encoder '2 clicks' clockwise until the screen to the left is displayed.

This will show your current temperature settings.



Pressing the rotating encoder, will select the temperature and allow you to make changes.

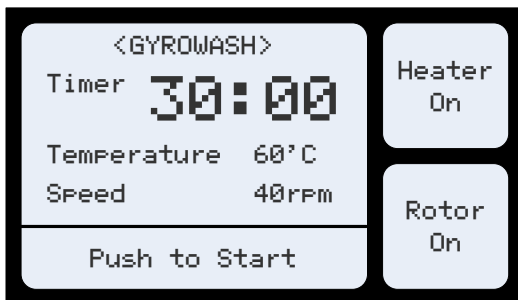
Rotate the Rotating encoder clockwise to increase the temperature or anticlockwise to reduce the temperature.



Once you have selected the desired temperature, press the rotating encoder to confirm the changes.

Note: At any point **before** confirming the changes you can escape and cancel any amendments by pressing selection button 1.

Either confirming the changes or escaping will return you to the Test information screen. Any changes you have made will now have overwritten the previous parameters.



Setting the Timer Start

The UniController gives the user 2 options of how to start the timer.

Push – Means that the timer will begin immediately after the user presses the rotating encoder when on the Test Information Screen. Regardless of the bath temperature.

Auto - Means that instead of beginning immediately after pressing the rotating encoder, the UniController will delay the starting the timer until the bath has reached the set temperature.



To change the timer start settings, starting from the Test Information Screen rotate the rotating encoder '3 clicks' clockwise until the screen to the left is displayed.

This will show your current timer start settings.



Pressing the rotating encoder, will select the timer start and allow you to make changes.

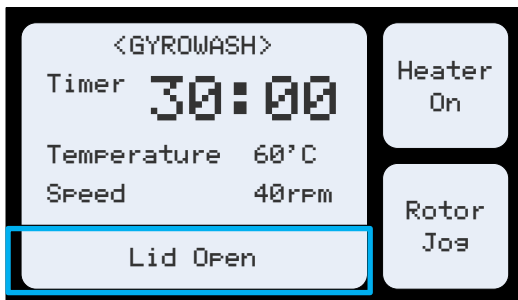
Rotate the Rotating encoder clockwise or anticlockwise to select either push or Auto.



Once you have selected the desired timer start function, press the rotating encoder to confirm the changes.

Note: At any point **before** confirming the changes you can escape and cancel any amendments by pressing selection button 1.

Either confirming the changes or escaping will return you to the Test information screen. Any changes you have made will now have overwritten the previous parameters.



Jog Function

When the lid of the GyroWash² is opened the UniController will automatically detect this and display the message highlighted by the blue rectangle (left).

At this point the jog function is activated. By pressing selection button 2, the rotor will turn 90° to allow easy access to one face of the rotor for loading or unloading of Test Vessels. A second press of selection button 2 and the rotor will turn another 90° and so on.

TEST VESSELS

The number of Test Vessels it is possible to fit in GyroWash² depends on the model ordered.

Model number	Maximum number of Test Vessels*
1315/8	8
1315/20	20

Test Vessels have quick-release lids, so that they can be conveniently filled 'in-situ'. The standard seals are solvent-resistant fluorocarbon seals, suitable for dry cleaning and chlorinated water fastness testing.

When operating the instrument at temperatures in **excess** of 60°C, it is necessary to pre-heat the liquor prior to introduction to the test vessels. This procedure minimises pressure build up and prevents leakage of liquor during the test cycle.

Test Vessels should NEVER be completely filled

If a test vessel is allowed to cool with the lid on it may become difficult to remove the lid due to formation of a vacuum inside the test vessel.

GyroWash² accepts Large or Small Test Vessels in any combination. No conversion kits or other parts are required.

Attaching the Test Vessels to the Rotor

Insert and Rotate

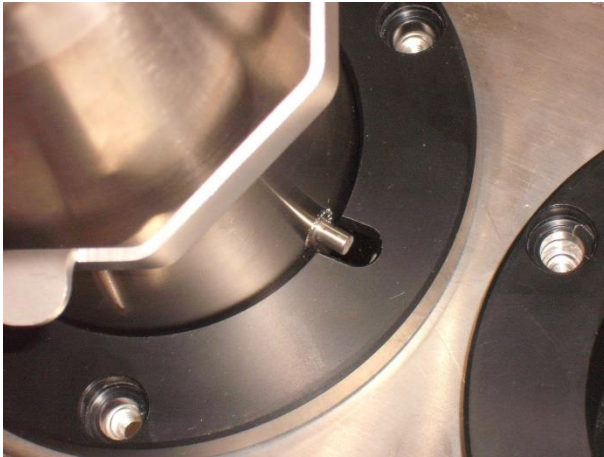
Unlike the vessels of some other washwheels, no conversion parts or securing bars are required for fixing them on the rotor.

GyroWash² Test Vessels incorporate a 'zero force' Insert and Rotate feature which enables the operator to rapidly remove and replace them on the rotor.

You will notice that each Test Vessel, or Pot, has three (3) pins, equally spaced apart.

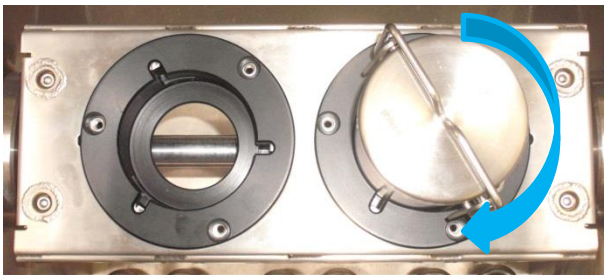
On the 500ml Test Vessel, the pins are located at the bottom of the cylinder so that the Test Vessel **stands vertically** when fixed on the rotor.

The 1200ml Test Vessel on the other hand, has the pins on an adaptor fixed to the side of the cylinder so that the Test Vessel **lies horizontally** when fixed on the rotor.



Each pot black connector on the rotor has 3 slots that are designed to receive the pins of the test vessels.

To insert the pot, align the test vessel pins with the slots and allow the test vessel to follow the slots until it reaches the bottom of the pot connector.



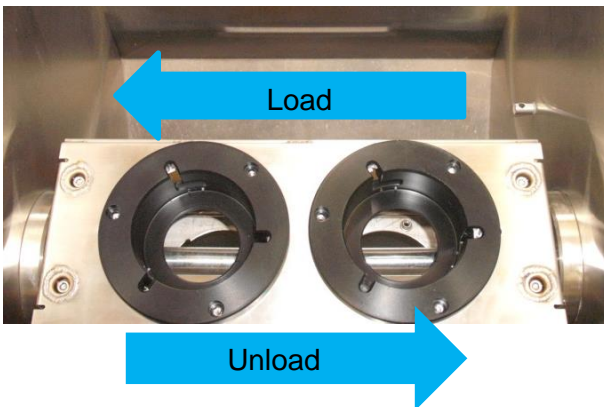
Once the test vessel is located in the pot connector, turn the pot **clockwise**. As indicated by the arrow. This will lock the pot on to the rotor during testing.

After testing turn the test vessel **anticlockwise** to unlock them, and lift them vertically from the pot connector.

Note: After the test is complete, the pot may be extremely hot. Ensure adequate precautions are taken to avoid burns. Heat resistant gloves are recommended.

If you are using the large (type 2) test vessels, you must start attaching them to the rotor from the right hand side. If you do not load them from the right, they will not fit on the rotor.

Once testing is complete, you must unload the pots from the left hand side of the rotor.





500 ml Test Vessel
(Small Pot)



1200 ml Test Vessel
(Large Pot)

500 ml Test Vessels **stand vertically** on the rotor.



1200 ml Test Vessels **lay horizontally** on the rotor.



Balancing Test Vessels on the Rotor

Ensure that the number of Test Vessels on each of the four (4) sides of the rotor is balanced. There should be a minimum of four (4) Test Vessels equally spaced around the rotor. If there is only one (1) test, the other three (3) should contain only water.

Your safety

When handling Test Vessels at 60°C and above, it is recommended to use water proof and heat resistant protect gloves.

Take care when opening Test Vessels. Heat will cause the contents of the Test Vessel to become pressurised. When the Test Vessel is opened small particles of liquid may be ejected. Eye protection is therefore recommended.

When operating GyroWash² at temperatures above 60°C take care when opening the lid. Steam and water vapour may be released towards the operator. Open the lid at arms-length.

INSTALLATION

The GyroWash² is delivered on a wooden palette. Use a forklift truck or hydraulic pump trolley to move the packing case as near as possible to the final location.

Once in position, follow the instructions in the [Unpacking Section](#) to remove the outer case.

The GyroWash² can now be lifted from its palette and in to location using a pump truck if available, or a by hand. If lifting by hand a minimum of 3 people will be required.

These instruments are heavy and should be moved with care.

Do not dispose of any packaging material until everything is accounted for. If there are any discrepancies, please contact your supplier immediately.

SERVICES

Electrical supply

The instrument is wired, as ordered, that is for single phase, three phase and neutral + earth or three phase + earth supply. Check the details on the label adjacent to the mains cable outlet. Maximum power requirements are tabulated in the Technical Specification section.

This instrument has been wired to the European IEC 60446 Regulations as follows:

L1	Brown
L2	Black
L3	Grey
Neutral	Blue
Ground/Earth	Green/yellow stripe

Water supply and drain

We recommend GyroWash² is permanently connected to a potable mains water supply and drain. However, GyroWash² can also be operated independent of a mains water supply and drain if appropriate.

The GyroWash² water supply connection is a 3/4" BSP male fitting, commonly found on European domestic washing machines.

Fitting a mains water shut-off valve local to the GyroWash² is strongly recommended. If splashing occurs when filling an empty bath, reduce the inlet pressure to an acceptable level using the shut-off valve.

GyroWash² has one drain and one overflow per bath. Using the Hose Clamps connect the flexible Reinforced Hose supplied to the Hose Tail connectors and the other end into an appropriately sized waste pipe. Any additional pipe-work for the drain or overflow must have a bore diameter of at least 19 mm to prevent the flow from being restricted.

An air gap should be maintained between the drain pipe and the sewer drain to prevent any contamination of the instrument from the sewer.

Location

Each instrument is supplied complete with a stand. It is not possible to remove the stand. To allow access for ventilation the rear of the instrument should be a minimum of 100 mm from a wall.

UNPACKING

Read all of these instructions before beginning to unpack the instrument.
Before unpacking, transport the box to the room where the instrument is to be located.

The instructions of how to unpack the crate travel separately to this document and can be found on the crate itself.

UNPACKING CHECKLIST

Please check the serial number plate to confirm that the supply voltage and frequency are in accordance with your order. Also, check the items listed in the tables below are present.

Stock Code	GyroWash ²	Voltage and Frequency
901-968	1315/8	220/240 V 50/60 Hz Single Phase
Stock Code	Quantity	Description
327-246	4 metres	Reinforced Hose Ref: RP19-26 19mm I/D, 26mm O/D
393-549	2	Hose Clamp
779-208	1	Blue Inlet Hose
381-108	1	17mm A/F Spanner
381-109	1	5mm Hexagonal Key
290-315	1	1315 Operator's Guide

Stock Code	GyroWash ²	Voltage and Frequency
901-971	1315 / 20	380-420V 50/60Hz 3 phase neutral & earth
901-969	1315 / 20	220-240V 50/60Hz 3 phase & earth
Stock Code	Quantity	Description
327-246	4 metres	Reinforced Hose Ref: RP19-26 19mm I/D, 26mm O/D
393-549	2	Hose Clamp
779-208	1	Blue Inlet Hose
381-108	1	17mm A/F Spanner
381-109	1	5mm Hexagonal Key
290-315	1	1315 Operator's Guide

In addition, the following sample packs of James Heal associated Test Materials are also included:

Stock Code	Quantity	Description
702-510	1	James Heal Multifibre DW - Sample 0.5m
706-659	1	James Heal ECE Non-Phosphate Reference Detergent (A) – Sample 20g
706-658	1	James Heal ECE Phosphate Reference Detergent (B) – Sample 20g
706-664	1	James Heal Standard Soap WOB – Sample 20g

OPTIONAL ACCESSORIES & TEST MATERIALS

The following are NOT supplied with the instrument, unless specifically ordered, but are available at short notice.

The GyroWash² is supplied *without* test vessels which must be ordered separately.

Test Vessels

718-902	Small (500 ml/1 pt)	Test Vessel/Canister (Type 1)
718-903	Large (1200 ml)	Test Vessel/Canister (Type 2)

GyroWash² 1315 accepts Large or Small Test Vessels in any combination.

No conversion kits or other parts are required.

Calibration

202-415	UKAS Certificate of Calibration for GyroWash ²
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Accessories (ISO)

766-200	James Heal Grey Scale for assessing Change in Colour ISO 105 A02
766-201	James Heal Grey Scale for assessing Staining ISO 105 A03
718-164	Non-Corroding Steel Balls (washing) - pack (100)
718-163	Non-Corroding Steel Discs (dry cleaning) - pack (50)
794-905	Non-Corroding Steel Discs (dry cleaning) - pack (50 Discs/4 Cotton Bags)
702-526	Cotton Drill Bags 100 x 100 mm (ISO 105 : DO1) - pack (50)
718-168	PTFE Rods (ISO 11643) - pack (100)

Accessories (AATCC)

766-512	AATCC Gray Scale for Color Change
766-513	AATCC Gray Scale for Staining
718-164	Non-Corroding Steel Balls (washing) - pack (100)
718-163	Non-Corroding Steel Discs (dry cleaning) - pack (50)

Consumables (ISO)

702-500	James Heal Multifibre Adjacent Fabric DW - per roll (10m)
702-502	James Heal Multifibre Adjacent Fabric DW - per roll (50m)
702-503	James Heal Multifibre Adjacent Fabric DW - per roll (100m)
706-657	James Heal Standard Soap - per tub (2kg)
706-650	James Heal ECE Formulation Phosphate Reference Detergent (B) (Without Optical Brightener) - per tub (2kg)
706-651	James Heal ECE Formulation Phosphate Reference Detergent (B) (Without Optical Brightener) - per box (15kg)
706-714	Anhydrous Sodium Carbonate - per pack (500 g)

- 706-652 James Heal ECE Formulation Non-Phosphate Reference Detergent (A)
(Without Optical Brightener) - per tub (2kg)
- 706-653 James Heal ECE Formulation Non-Phosphate Reference Detergent (A)
(Without Optical Brightener) - per box (15kg)
- 706-735 TAED (tetraacetylenediamine) - per pack (250 g)

Consumables (AATCC)

- 702-417 Multifiber Adjacent Fabric Style 1 - per pack (1m)
Multifiber Adjacent Fabric Style 1 - per box (500 pieces) 5 x 10cm
- 702-419 (straight heat sealed edges)
- 702-420 Multifiber Adjacent Fabric Style 10 - per pack (1m)
Multifiber Adjacent Fabric Style 10 - per box (500 pieces) 5 x 10cm
- 702-421 (straight heat sealed edges)
- 702-403 Multifiber Adjacent Fabric Style 10A - per pack (1m)
Multifiber Adjacent Fabric Style 10A - per box (500 pieces) 4 x 10cm
- 702-370 (straight heat sealed edges)
Multifiber Adjacent Fabric Style 10A - per box (500 pieces) 5 x 10cm
- 702-399 (straight heat sealed edges)
- 706-500 AATCC 1993 Non-Phosphate Reference Detergent - per tub (2kg)
(With Optical Brightener)
- 706-501 AATCC 1993 Non-Phosphate Reference Detergent - per box (15kg)
(With Optical Brightener)
- 706-502 AATCC 1993 Non-Phosphate Reference Detergent - per tub (2kg)
(Without Optical Brightener)
- 706-503 AATCC 1993 Non-Phosphate Reference Detergent - per box (15kg)
(Without Optical Brightener)

Spares

- 1315-spares 2-year Spares Kit for 1315 GyroWash² range

TECHNICAL SPECIFICATION

EXTERIOR DIMENSIONS	Width	Depth	Height Inc. Legs	Height With Lid Open	Weight
1315/8	880mm (34.7 in)	785mm (30.9 in)	1050mm (41.4 in)	1535mm (60.5 in)	
1315/20	1270mm (50 in)	785mm (30.9 in)	1050mm (41.4 in)	1535mm (60.5 in)	
BATH DIMENSIONS	Width	Depth	Height	Bath Volume	Liquid Medium Water
1315/8	370mm (14.6in)	490mm (19.3in)	515mm (20.3in)	35 Litres	Water
1315/20	760mm (29.9in)	490mm (19.3in)	515mm (20.3in)	70 Litres	Water

ELECTRICAL OPTIONS

1315/8	230V ± 10%	1P+N+E	50Hz/60Hz	4.5kW	19.5A
1315/20	230V ± 10%	3P+E	50Hz/60Hz	9.0kW	22.6A/Phase
1315/20	415V ± 10%	3P+N+E	50Hz/60Hz	9.0kW	12.5A/Phase

INSTALLATION

Cold water connection	¾ inch BSP
Drain	¾ inch BSP Hose Tail
Overflow	¾ inch BSP Hose Tail

OPERATION

Temperature Units	°C or °F
Temperature Settings Range	25-95°C (77-203°F)
Temperature Accuracy	±1°C (±1.8°F)
Temperature Rate of Rise	1.5°C/Min (2.7°F/Min)
Timer Setting Range	30minutes – 4 Hours
Rotational Speed	40 ±2 rpm
User Interface	UniController

TEST VESSELS (CANISTERS)

Small (Type 1)	500ml
Large (Type 2)	1200ml

SAFETY

Lid interlocking system