James Heal

OPERATOR'S GUIDE

DynaWash & DynaWash Duo

Durability Wash Testers

With New Intuitive Touchscreen User Interface

Covering Serial Numbers:

1626 DynaWash

1625 DynaWash Duo

/16/1001 & upwards

Software V1.03.04

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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

DYNAWASH & DYNAWASH DUO

DynaWash and DynaWash Duo have been designed with James Heal's unique product signature and have 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 instruments.

Both models simulate the conditions necessary to meet the requirements of many leading retail stores standard garment and fabric durability test specifications.

Performance of these instruments is compatible with the Hoovermatic Twin Tub and other similar devices.

Features & Benefits

- DynaWash durability wash tester for accelerated washing
- DynaWash Duo durability wash tester with integrated spin dryer
- Intuitive touchscreen user interface for easy use and reduced training time
- Test end time and progress bar for efficient use of laboratory time
- IP rated touchscreen
- Toughened glass to protect the touchscreen
- 9 language options
- Stainless steel bath
- Timer with end time alarm
- Changeable drainage pump time
- Spin dryer duration can be altered
- Wash time accumulator
- Maximum operating temperature 60°C
- Heating element safety cut out
- Free standing on lockable wheels
- Easy access front panel for servicing
- Stainless steel robust impeller with rotational speed 560rpm ±2%
- Test is paused when lid is opened
- Heater and impeller can be set to automatically stop at the end of the test
- Option for heater to remain on at the end of the test
- The heater and impeller work together to ensure even distribution of heat
- DynaWash Duo with safety interlocked spin dryer lid
- Both models are approved by Marks & Spencer
- Approved by Next

Features of DynaWash Duo

Summary of a Test Procedure

The process below is an example of a generic test using the DynaWash Duo. The relevant Standard must be used for specific conformance.

Washing

Fill the DynaWash Duo with water to the fill mark (approximately 40 litres).

Heat the water to the label wash temperature + 10°C or as specified within the relavant standard (maximum 60°C).

Weigh the specimen and make up the load to 1 kg with Polyester Makeweights.

Most Standards specify that the specimen must not be washed with any other item to prevent any transfer of colour but there are exceptions

Close any fastenings and wash right side out.

Add detergent and the Polyester Makeweights to the DynaWash. Run for one minute to dissolve the powder.

Add the specimen to the DynaWash Duo and run the machine. Typically the time of this process is 15 minutes but it is specified within the relevant standard.

Rinsing Procedure

Remove and rinse the tested specimen and makeweights separately, generally twice, in the spinner section of the DynaWash Duo using cold water to adequately cover the specimen and makeweights.

Spin the load.

Drying Procedure

Dry the specimen by either Flat Drying, Line Drying or Tumble Drying, as appropriate.

When tumble drying, any makeweights used are dried along with the specimen.

Evaluation and Test Results

Assess and report any detrimental changes in appearance of product, noting seams, differential shrinkage, trims, buttons, buttonholes, stitching, appliqué and embellishments, or any other feature of a specific end product.

Using a Colour Assessment Cabinet, assess and report the numerical rating of the change of shade on the original sample compared to the tested specimen, on all colours and assess for change of appearance.

Scope of Application

DynaWash and DynaWash Duo are accelerated washing machines that simulate laundering in a reduced time period.

Both models simulate the conditions necessary to meet the requirements of many leading retail stores standard garment and fabric durability test specifications for:

- Print durability
- Pleat retention
- Cockling
- Flock retention
- Crinkling
- Differential Shrinkage
- Security of attachments

Standards

Standards	
Arcadia	**AG10** Print Durability for Textiles
bsi.	**BS 7907** Code of practice for the design and manufacture of children's clothing to promote mechanical safety. Annex C: Method for determination of the security of attachment of non-grippable attached components
M&S EST. 1884	**M&S C15** Print Durability **M&S P5** Durability Wash for Garments and Components **M&S P69** Cockling **M&S P6** Durability Wash for Pleat Retention **M&S P7** Durability of Waddings and Quilted Waddings to Washing
next	**TM 8** Appearance for Garments / Products

INSTALLATION

Safety

DynaWash and DynaWash Duo have masses of approximately 80Kg and 140Kg respectively, therefore suitable lifting apparatus is recommended during installation. The instruments are large and heavy and should be moved and handled with care by suitably trained personnel.

Height* (mm)	Width (mm)	Depth^ (mm)	Approx Weight (kg)
1240	560	759	80.0

* Height with lid up. ^ Depth includes water input fitting

Height* (mm)	Width (mm)	Depth^ (mm)	Approx Weight (kg)
1240	1010	759	140.0

* Height with lid up. ^ Depth includes water input fitting

Siting & Unpacking

DynaWash and DynaWash Duo are both delivered on a wooden pallet inside a crate. Move the instrument to its final location whilst still inside the crate using either a forklift truck, hydraulic pump truck or other suitable mechanical method.

These instruments should be located in an appropriate space to accommodate their size. DynaWash and DynaWash Duo require a supply of electricity, water and drain facilities. See Services section.

Check for external damage of the case, record any damage with photographs and report immediately. Do not install or use a damaged instrument.

Identify the top and front of the crate by locating the screws. Unscrew the top and front and ensure all screws are removed fully before attempting to remove the instrument.

Transport brackets are designed to secure the DynaWash and DynaWash Duo to the wooden pallet during shipping. One transport bracket is fitted at each end of the instrument using M8 stainless steel button head screws at the time of dispatch. A layer of cardboard is placed between the transport bracket and the DynaWash and DynaWash Duo to prevent marking. They are painted yellow for identification and can be discarded on unpacking (see image below). The brackets are then fastened to the pallet base with wood screws.

On arrival the wood screws should be removed first to prevent damage to the instrument.

After removal of the transport bracket, the M8 screws can be refitted into the holes in the instrument base to blank off the holes (for appearance only).

The contents of the order will be inside the instrument. Carefully remove the packaging and contents. Note that the order is complete – see Checklist. If there are any discrepancies, please contact your supplier immediately. Once satisfied, please dispose of any packaging materials safely and responsibly.

Read this manual carefully before operating the instrument and refer to Operator Safety.

Checklist

Instrument

DynaWash		DynaWash Duo	
Stock Code	Item	Stock Code	Item
901-973	DynaWash Model 1626 Single Phase 220-240V 50/60Hz	901-972	DynaWash Duo Model 1625 with built in spin dryer Single Phase 220-240 50Hz
201-825	ISO Certificate of Calibration for DynaWash 1626	201-829	ISO Certificate of Calibration for DynaWash Duo 1625

Ensure that you have also received:

- Drain hose (X2 for Duo)
- Drain hose clamp (X2 for Duo)
- Blue filling hose
- Torx screwdriver
- CD Operator's guide
- Any test materials as per the order

Spares

2-year Spares Kit (1626 / 1625-spares)			
Stock Code	Item	Stock Code	Item
133-123	Tubular Heating Element	195-236	Temperature Sensor
195-237	Compression Gland	195-348	480V Metal oxide radial varistor (3)
130-825	Fuse 1A 20mm Antisurge (2)	130-820	Fuse 5A Antisurge (2)
527-035	Bearing Assembly	383-411	V belt
195-347	Metal oxide radial varistor (1)		

1625/1626 Spare Parts			
Stock Code	Item	Stock Code	Item
133-123	Tubular Heating Element	195-236	Temperature Sensor
130-825	Fuse 1A 20mm Antisurge	130-820	Fuse 5A Antisurge
527-035	Bearing Assembly	383-404	V Belt
1625 Duo Spare Parts			
Stock Code	Item	Stock Code	Item
527-242	Spinner Assembly	397-768	Foam Ring

Test Materials

Makeweights			
Stock Code	**Item**	**Stock Code**	**Item**
702-530	Polyester Makeweights - per pack (1kg) Size: 300 x 300 ± 30mm Weight: 40g (approx) Complies with EN 26330 : 1994, ISO 6330 : 1984 and Next	702-532	100% Polyester Ballast (Type 3) - per pack (1kg) Size : 210 x 210 ± 10 mm Piece Mass: 50±5g Comply with M & S P1A, P1C, P3A, P4, P4A, P4B, P4C, P5, P5A, P6, P7, C15 and EN ISO 6330 : 2000/Amd.1 : 2008 and EN ISO 6330 : 2012
702-536	100% Cotton Ballast (Type 1) - per pack (1 kg) Size: 92 × 92 ± 2 cm Piece Mass: 320 ± 10 g Complies with: ISO 6330:2012	702-533	Polyester Makeweights - per pack (1kg) Size: 300 x 300 ± 30 mm Weight: 35±3g Complies with ISO 6330 : 1984, IEC 60456 and AWI/Woolmark TM31

Detergents			
Stock Code	**Item**	**Stock Code**	**Item**
706-737	Persil Handwash or Twin Tub [M&S P5 and P69 only] - per pack (700g ± 10%)	706-739	Persil Automatic - per pack (1.6 kg)
706-786	Persil Automatic - per pack (4 kg ± 10%)	706-727	Persil Bio - per pack (3 kg ± 10%)
706-650	ECE Formulation Phosphate Reference Detergent (B) (Without Optical Brightener) - per tub (2kg)	706-651	ECE Formulation Phosphate Reference Detergent (B) (Without Optical Brightener) - per drum (15kg)

TEST MATERIALS SELECTOR TABLE

	Stock Code	M&S C15	M&S P5	M&S P69	M&S P6	M&S P7	NEXt TM8	Arcadia CA10a	BS 7907:2007
Detergents									
Persil Handwash or Twin Tub	706-723		•	•					
Persil Automatic	706-724	•	•	•	•	•			
ECE (B)	706-650/1						•	•	•
Sodium Perborate Tetrahydrate *							•	•	
Makeweights									
M&S/ISO (200 x 200mm)	702-532	•	•	•	•	•	•		•

* Not Supplied by James Heal

Services

Electrical

DynaWash

Volts: 220-240V
Hz: 50/60Hz
Phase: 1Ph + N + PE
Watts: 2500W
Amps: 11A

DynaWash Duo

Volts: 220-240V
Hz: 50Hz
Phase: 1Ph + N + PE
Watts: 2650W
Amps: 14A

Before connecting, ensure that the electricity supply voltage and frequency matches the information on the serial number label.

DynaWash and DynaWash Duo are supplied with an industrial style IEC 60309 plug for the mains connections, attached at the rear.

Connect to a power supply only after installation is complete.

Electrical safety can only be guaranteed when continuity is complete between the instrument and an effective earthing system which complies with local and national regulations. The manufacturer cannot be held liable for the consequences of an inadequate earthing system (e.g. electric shock).

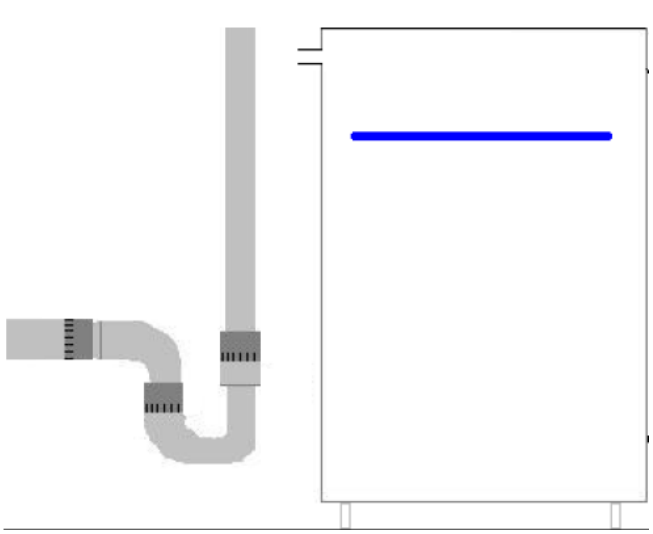
Do not use an extension lead.

Isolate from the electricity supply during maintenance or cleaning.

Water & Drainage

DynaWash and DynaWash Duo should be connected to a mains water supply in accordance with local and national safety regulations, to a maximum of 60°C. The water inlet is fitted with a ¾" BSP non-return inlet valve.

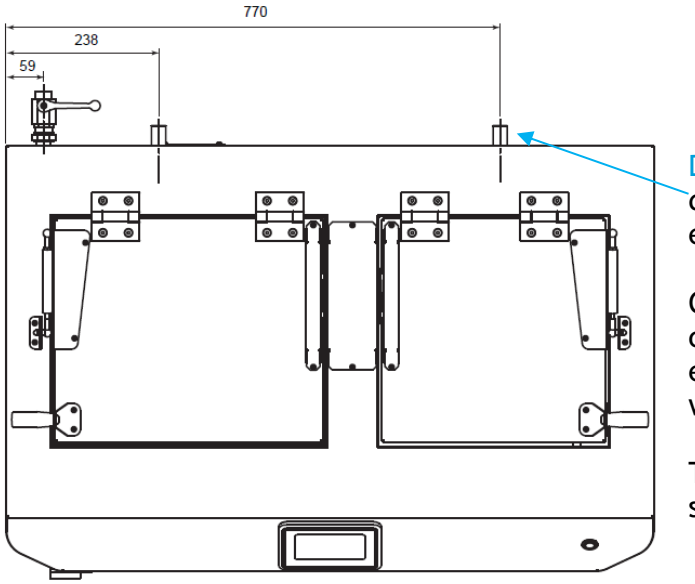
If the water pressure is higher than 1000kPa (approx. 10 bar) a pressure reducing valve must be fitted. Using the blue hose provided, connect to the mains water supply incorporating a mains stopcock with a ¾" BSP thread. The stopcock should be fitted by a qualified plumber.



At the rear of the bath is a 22mm drain connection for emptying via the pump. Connect the hose and clamp and ensure that the drain pipe is higher than the water level in the bath to prevent the water siphoning from the bath.

To enable the pump, select 'Drain' on the touchscreen; 40 litres will be pumped out in approx. 90 seconds. The duration can be altered in 'Settings.'

To drain into a sink, hook the hose over the edge and secure. Ensure that the water can flow freely or there is a risk of the water being sucked back in.



DynaWash Duo, has a second 22mm drain connection for carrying away the excess water from the spin dryer.

Connect the second waste hose and clamp to the instrument and the other end to a drain for the collection of the waste water from the spin dryer.

There is no risk of siphoning from the spin dryer.

Ensure that the drain and filling hoses are not obstructed or compressed.

OPERATION

Operator Safety

DynaWash and DynaWash Duo incorporate several safety features to safe-guard the operator. Hazards may be encountered if the instrument if used inappropriately.

- Do not modify in any way
- Ensure the wheels are locked before use
- Care should be taken if moved, then re-lock the wheels
- External surfaces are safe to touch
- Touchscreen is IP rated
- Toughened glass protects the touchscreen
- Do not use any high pressure water spray onto the touchscreen or into any ventilation holes or any other opening on the instrument
- Do not fill above the fill level of the bath (40 litres) as the water will spill over the top of the bath
- Fill only with the lid open for accurately filling to level
- Fill with water only
- Warm water may be added to assist heating time
- The maximum operating temperature is 60°C
- The heater and impeller will not operate with the lid open
- The heater and impeller will not operate when the drain pump is activated
- The impeller should not be rotated by hand
- Inspect and clean the lint filter below the grille at the bottom of the bath regularly
- Heating element has a thermal safety cut out
- The spin dryer has a safety interlocked lid which remains locked for 10 seconds at the end of a test to ensure that it has stopped rotating before the lid can be lifted
- Isolate the electrical supply when testing is complete
- Isolate the electrical supply before removing any covers
- Any electrical work should be carried out by a suitably qualified person
- Ensure that the electrical cable is not trapped by the wheels

Preparing for Use

DynaWash and DynaWash Duo are fitted with lockable wheels. Ensure the locks are fully engaged before use.

Filling the Bath

Open the lid.

The tap is a lever situated on the outside of the instrument at the back left corner.

Move the lever away 90°.

Allow the bath to fill to the fill level indicator on the back of the bath – the volume is 40 litres of water.

Return the lever to its 'off' position.

Set the timer and temperature as required with the touchscreen user interface, as described in the section 'Touchscreen User Interface.'

Follow the chosen procedure for introduction of the detergent, specimens and makeweights.

Using the Spin Dryer - DynaWash Duo

At the end of the tests, the specimens and makeweights may require spinning in the spin dryer.

They may need rinsing first – add fresh water to the spinner to rinse the items.

Once the lid is closed, to activate the spin dryer press the button on the front of the machine and the shot bolt will engage with the lid.

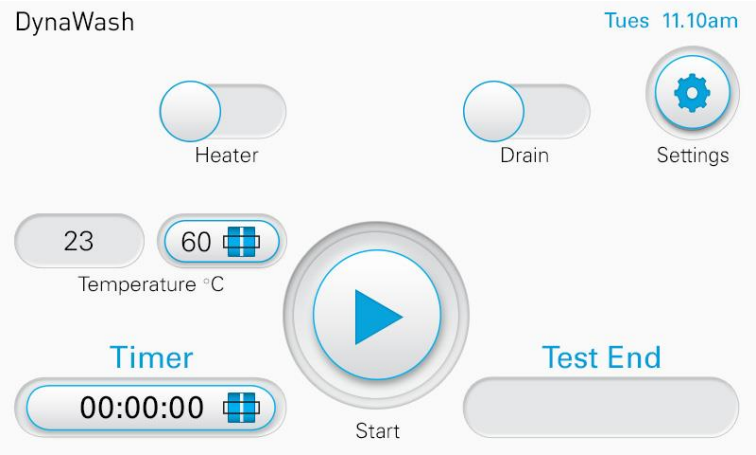
The spin dryer will run for the duration as chosen in the settings page on the touchscreen.

If the spin needs to be interrupted, this can be achieved by pressing the button again.

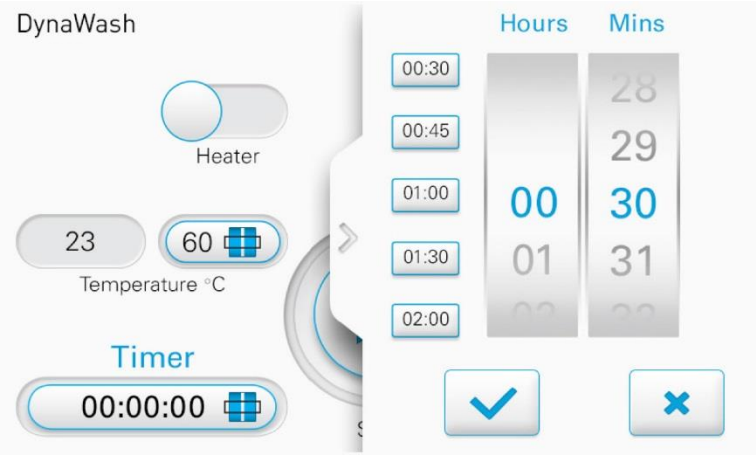
The shot bolt will disengage 10 seconds after the end of the spin time, or after interruption.

TOUCHSCREEN USER INTERFACE

DynaWash

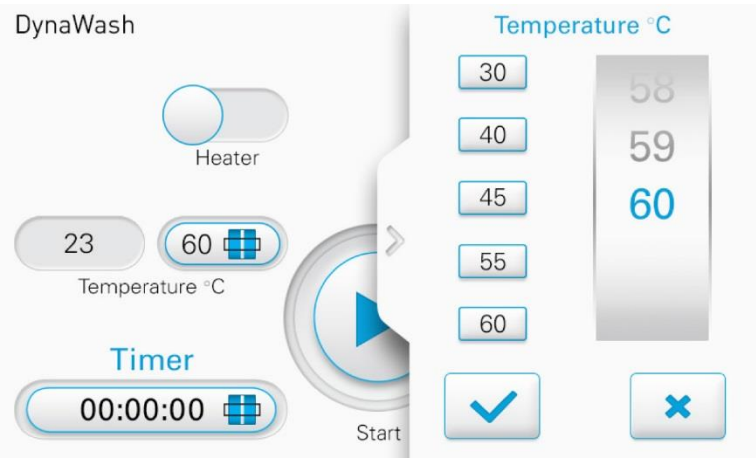


DynaWash home screen



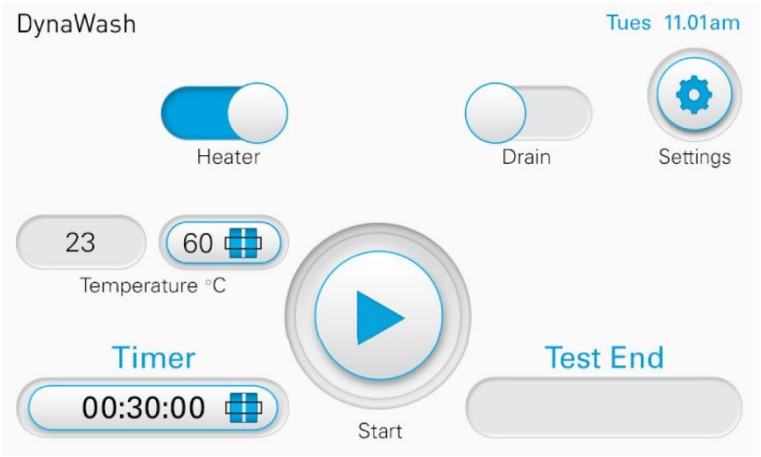
Set the timer
To set the timer, click on the timer button and the scroll set up tab appears. Swipe up and down to set the time, or tap for fine alterations, then press the tick button.

The pre-set buttons can also be used. These can be altered by selecting a value on the scroll then hold on the selected button.



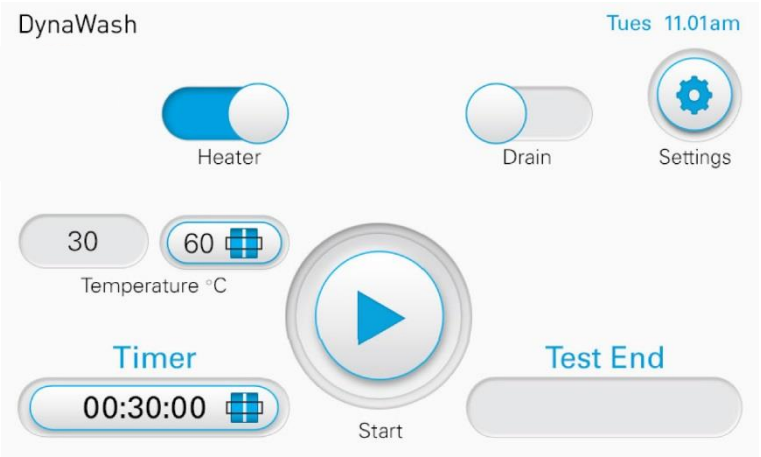
Set the temperature
To the temperature, click on the temperature scroll button and the scroll set up tab appears. Swipe up and down to set the temperature, or tap for fine alterations, then press the tick button. The pre-set buttons can also be used as above.

Units can be in either °C or °F and can be changed in the settings screen.



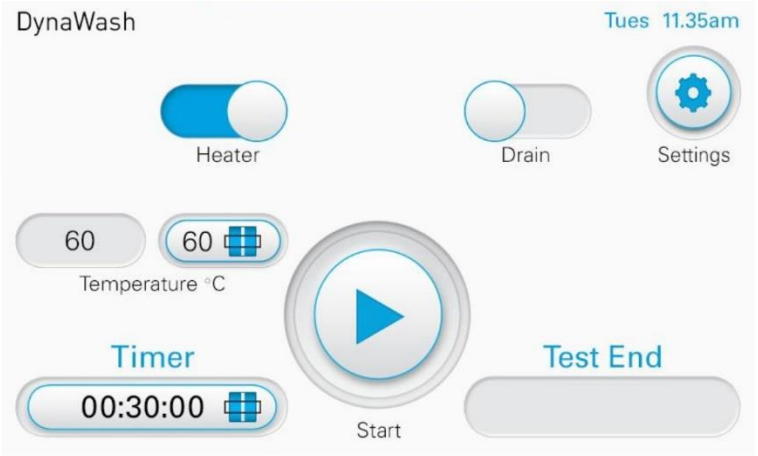
Toggle switches
To set the heater on, toggle the switch on and off by sliding it left and right. If the toggle switch is displaying blue, the switch is on.

The heater and impeller work together.



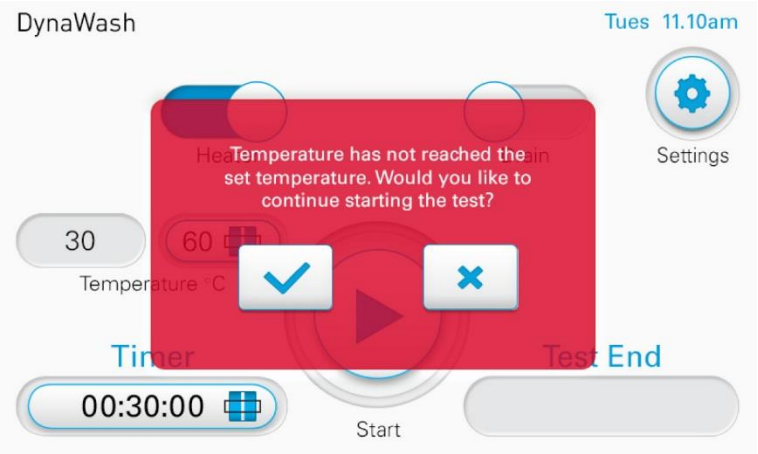
Test generated
The timer and temperature is set and the heater is on.

The bath will start to heat up.

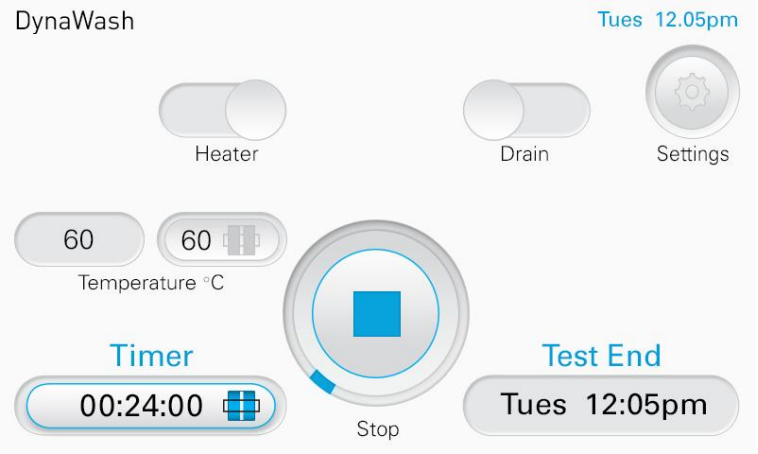


Temperature ready
Once the temperature has reached the set temperature in the display window, the temperature is ready.

A test can be started by pressing the start button. The timer will begin to count down.



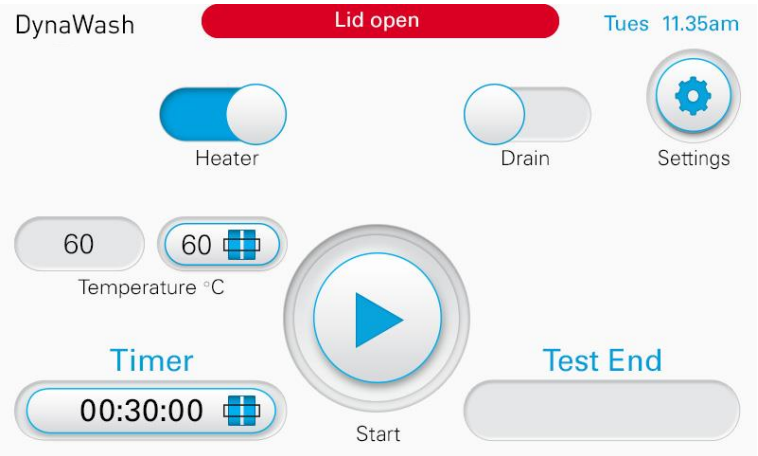
Warning message
If the start button is pressed to start the test before the bath temperature has reached the set temperature, a warning message is displayed. This is only applicable when the heater toggle is on.
If the tick is pressed, the timer will start. The heater and impeller will continue. If the cross is pressed, the heater and impeller will continue but the timer will not start.



Test in progress
Whilst the test is running the test end displays the time that the test will be complete.

The timer counts down and the progress ring indicates the progress of the test.

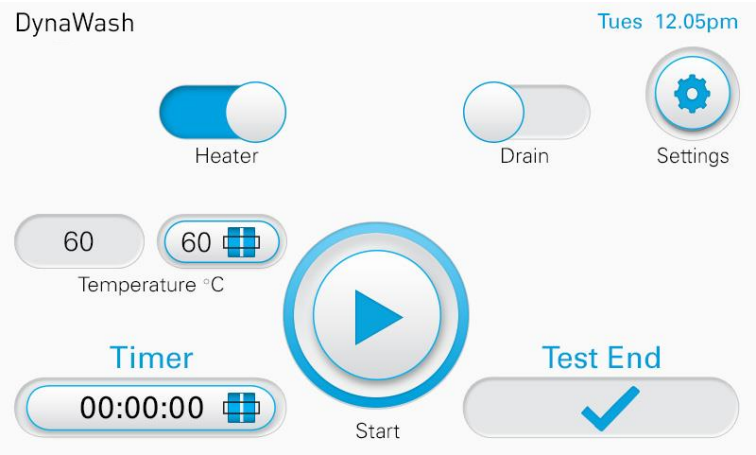
The buttons and toggle switches are greyed out and inactive.



Lid open
When the lid is open, a warning message will appear.

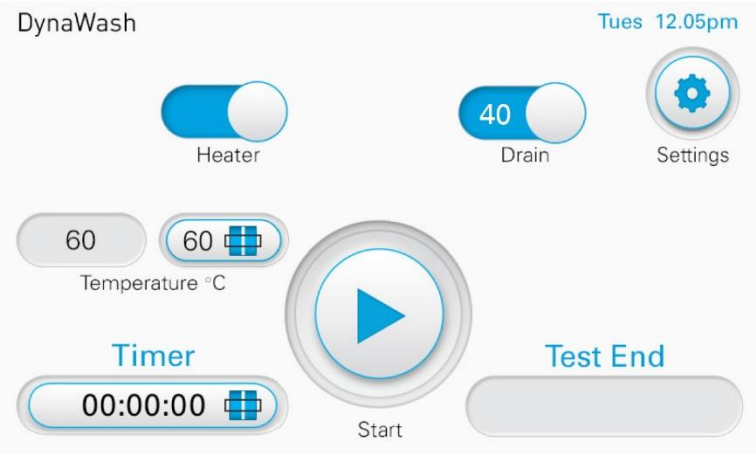
The heater will turn off and the impeller will stop.

If the lid is opened during a test, the test will pause and resume when the lid is lowered.



Test End
Once the test is complete, the test end will display a tick, the timer will display all zeros and the progress ring will be complete. The heater and impeller stop.

Once stop is pressed, the buttons and toggle switches become active again.



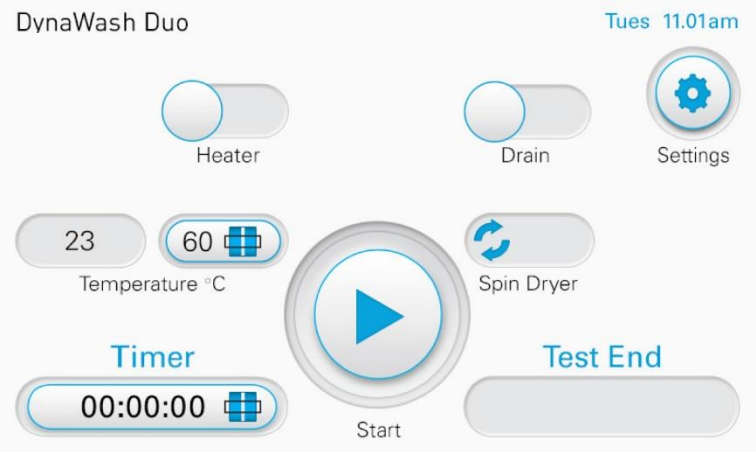
Draining the bath
To drain the bath, toggle the switch to the right and the bath will empty for the duration as shown and will count down. The duration can be altered in the settings screen.

The heater and impeller will be inactive whilst the drain switch is engaged.

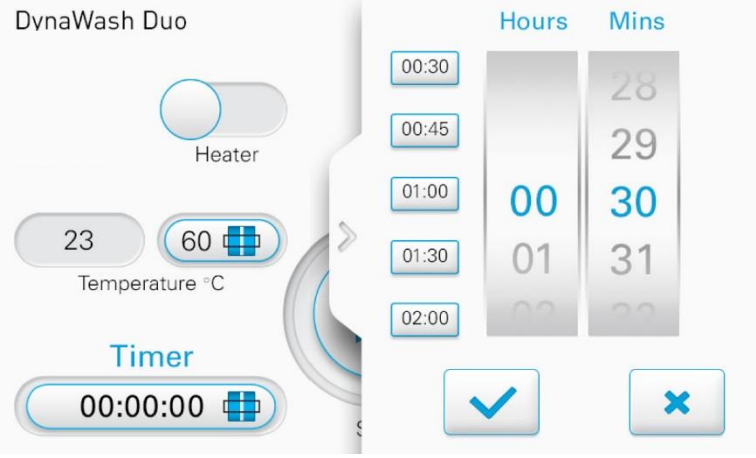
Settings

- Temperature **Units** °F °C
- **Volume**
- **Brightness**
- **Language** (power cycle after alteration)*
- **Day / Time**
- **Spin Dryer** (Duo) duration in seconds
- **Drain** time in seconds
- Accumulative **Timer** – this counts up and is reset by being held
- **Test End Heater** – when toggled off, the heater and the impeller stop at the end of the test as described under 'Test End' (recommended). When this button is toggled on, the heater will stay on at the end of the test and the impeller will stop.

DynaWash Duo

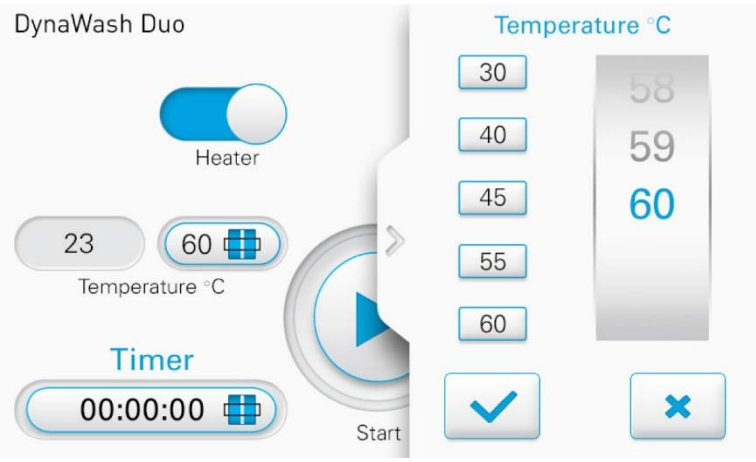


DynaWash Duo home screen



Set the timer
To set the timer, click on the timer button and the scroll set up tab appears. Swipe up and down to set the time, or tap for fine alterations, then press the tick button.

The pre-set buttons can also be used. These can be altered by selecting a value on the scroll then hold on the selected button.



Set the temperature
To the temperature click on the temperature scroll button and the scroll set up tab appears. Swipe up and down to set the temperature, or tap for fine alterations, then press the tick button. The pre-set buttons can also be used as above.

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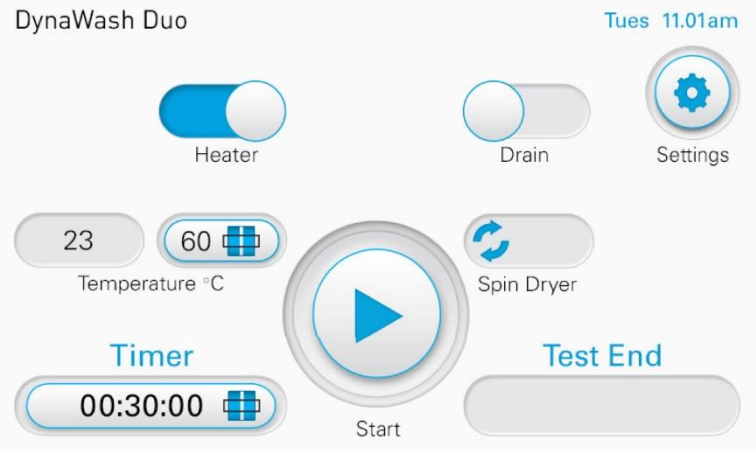
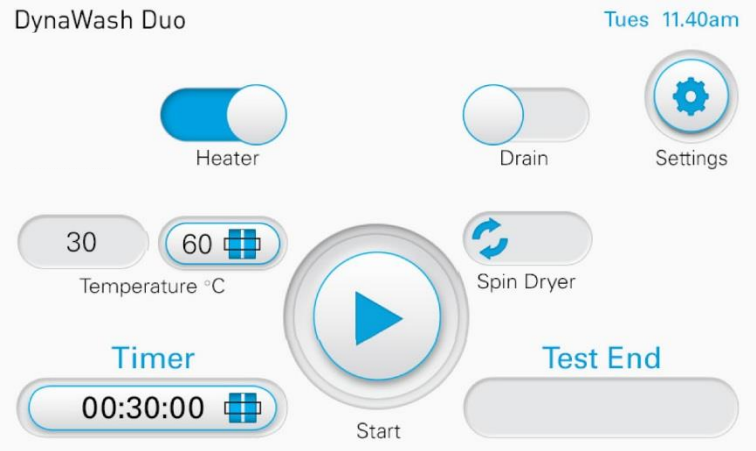


Toggle switches
To set the heater on, toggle the switch on and off by sliding it left and right. If the toggle switch is displaying blue, the switch is on.

The heater and impeller work together.

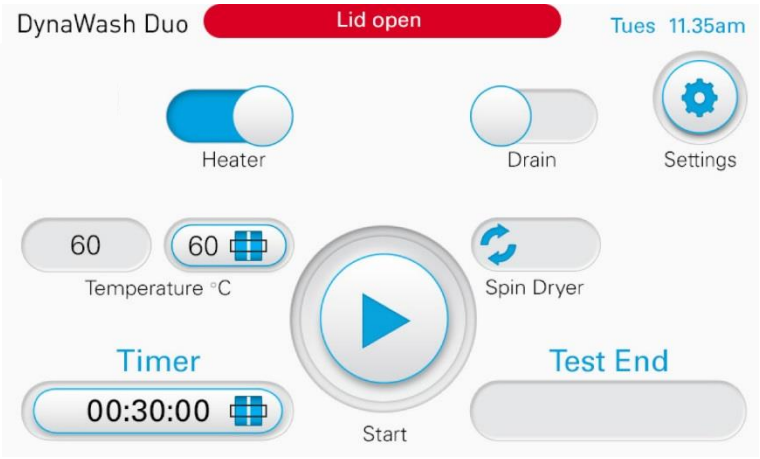


Test generated
The timer and temperature is set and the heater is on.

The bath will start to heat up.

Temperature ready
Once the temperature has reached the set temperature in the display window, the temperature is ready.

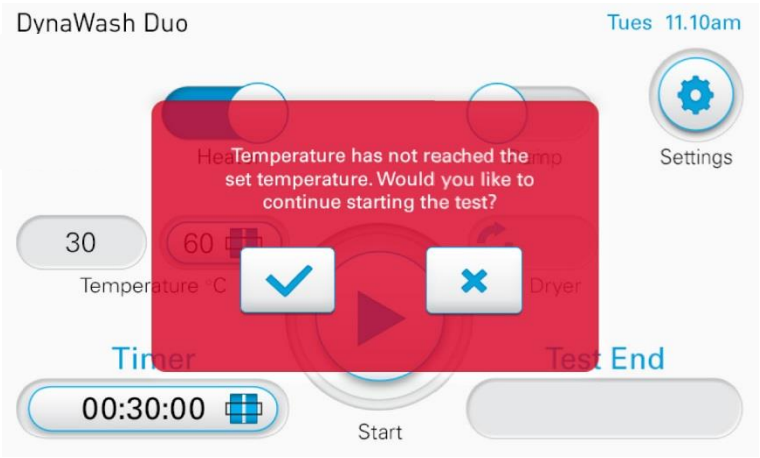
A test can be started by pressing the start button. The timer will begin to count down.



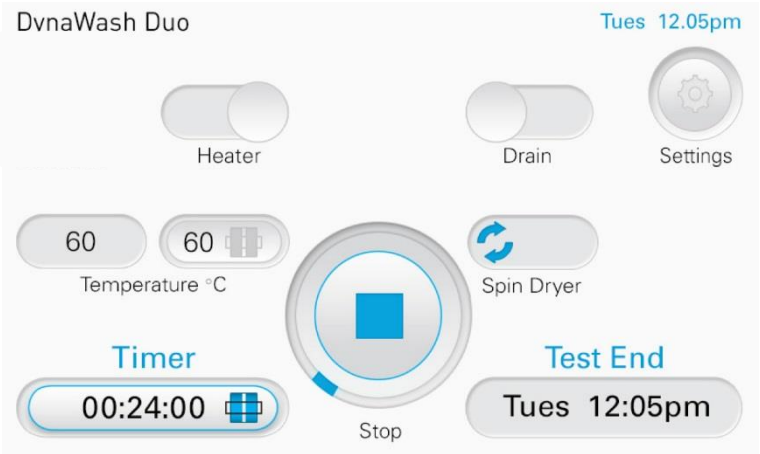
Lid open
When the lid is open, a warning message will appear.

The heater will turn off and the impeller will stop.

If the lid is opened during a test, the test will pause and resume when the lid is lowered.



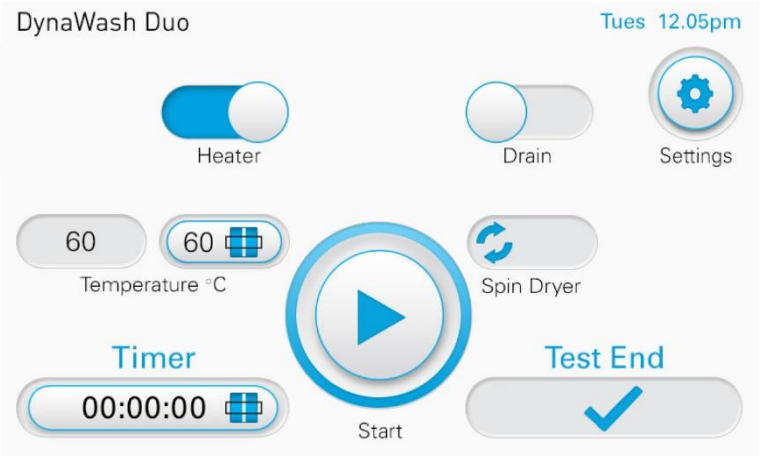
Warning message
If the start button is pressed to start the test before the bath temperature has reached the set temperature, a warning message is displayed. This is only applicable when the heater toggle is on.
If the tick is pressed, the timer will start. The heater and impeller will continue. If the cross is pressed, the heater and impeller will continue but the timer will not start.



Test in progress
Whilst the test is running the test end displays the time that the test will be complete.

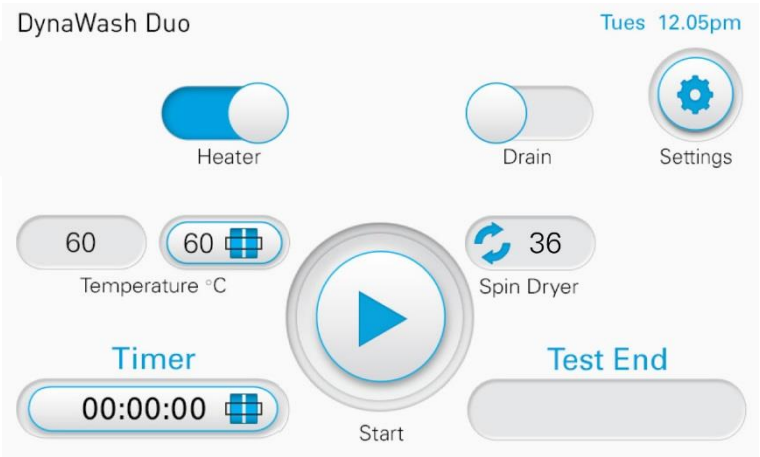
The timer counts down and the progress ring indicates the progress of the test.

The buttons and toggle switches are greyed out and inactive.



Test End
Once the test is complete, the test end will display a tick, the timer will display all zeros and the progress ring will be complete. The heater and impeller stop.

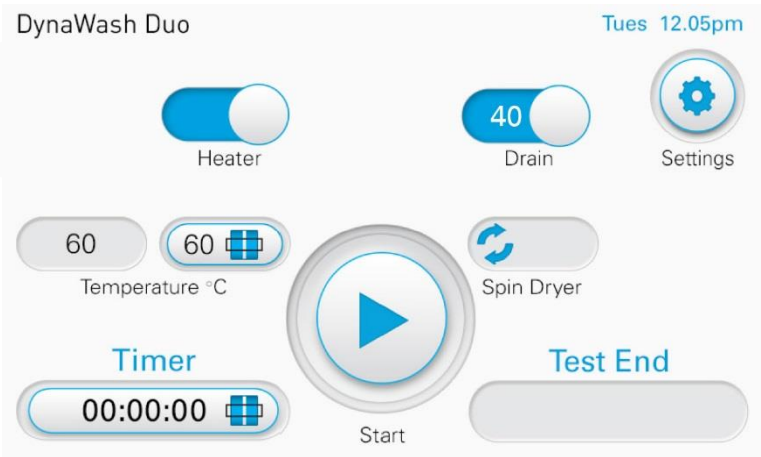
Once stop is pressed, the buttons and toggle switches become active again.



Spin dryer
The spin dryer is activated when the lid is down and the button on the front of the instrument is pressed.

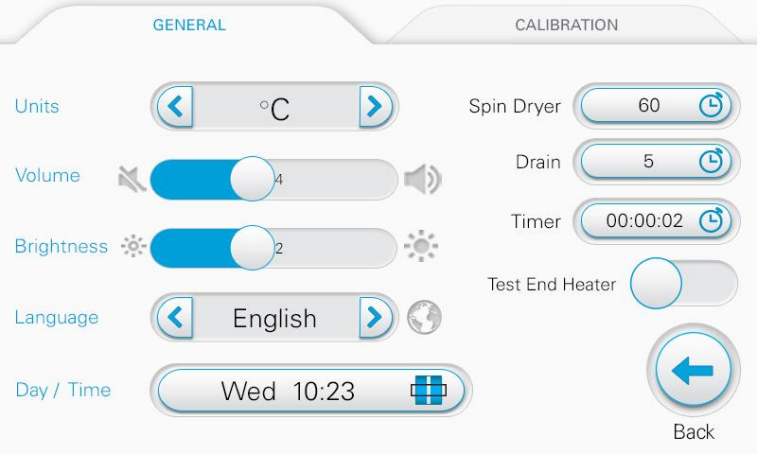
The countdown timer appears in the spin dryer display and shows how many seconds remain.

The spin duration can be altered in the settings screen.



Emptying the bath
To empty the bath, toggle the drain switch to the right and the drain will empty for the duration as shown on the display – this will count down.

The draining duration can be altered in settings.



Settings

- Temperature **Units** ˚F ˚C
- **Volume**
- **Brightness**
- **Language** (power cycle after alteration)*
- **Day / Time**
- **Spin Dryer** (Duo) duration in seconds
- **Drain** time in seconds
- Accumulative **Timer** – this counts up and is reset by being held

- **Test End Heater** – when toggled off, the heater and the impeller stop at the end of the test as described under 'Test End' (recommended). When this button is toggled on, the heater will stay on at the end of the test and the impeller will stop.

***Power recycle refers to turning the instrument off and back on again.

CARE AND MAINTENANCE

Rinse the bath with clean water to remove residual lint and detergent. The stainless steel surface should not come into contact with liquid cleaning and disinfecting agents which contain chlorides or hypochlorites as these will have a corrosive effect on stainless steel. Aggressive vapours containing chlorine can also be corrosive. Do not store any of these corrosives on or near the instrument.

The touchscreen is for use with fingertips only. Clean periodically with a soft, slightly damp, lint-free cloth.

Loose threads and lint may collect in the sump. This will require cleaning on a weekly basis or more frequently if fabrics prone to shedding have been tested. To do this, ensure the bath is empty, then isolate from the electrical supply. When cold, unscrew the 4 screws on the sump cover / grille with the Torx screwdriver provided and lift out. The small round sump filter is not removable. Remove material by hand or with a small brush – do not use metal or sharp objects which may damage the filter or heater. Replace cover and 4 screws.

Before removing any covers, ensure the instrument is isolated from the electrical supply; these should only be removed by a qualified engineer or electrician. Components must only be replaced by genuine original spare parts to guarantee the safety standards of the instrument.

Have the instrument serviced and calibrated at least once a year by a James Heal Service and Calibration Engineer.

James Heal Service & Calibration

James Heal Service & Calibration is an ISO 17025 based comprehensive, worldwide support programme.

Our instruments come with an 18 months warranty period.

Our aim is to provide precisely the services you need to maintain and protect the value of your investment.

In all communications please quote the serial number of your instrument and the software version number, for example: 1625/16/1001 and V1.00.

James Heal Service & Calibration contact details:

E-mail support@james-heal.co.uk

Telephone +44 (0) 1422 366355

Fax +44 (0) 1422 352440

Trouble Shooting

Certain problems may be solved easily before contacting us or calling out an engineer. Please perform the following checks in the event of any issues.

The touchscreen is not illuminated:

- Check the instrument is connected to the electricity supply.
- Check that the RCD at the supply has not tripped; reset if required.
- Check the isolator switch is on at the front.

Heater does not work:

- Close the lid and toggle the heater on – the heater will not work with the lid open.
- If the thermal cut out has been activated, switch off and wait for 30 minutes. Fill with water and switch on again.

The impeller is not rotating:

- Close the lid and toggle the heater on – the impeller works in conjunction with the heater which will not work with the lid open.
- Isolate the electricity supply, remove the back cover and check that the belt is connected to the pulleys and the belt tension is correct.

The pump does not drain the bath:

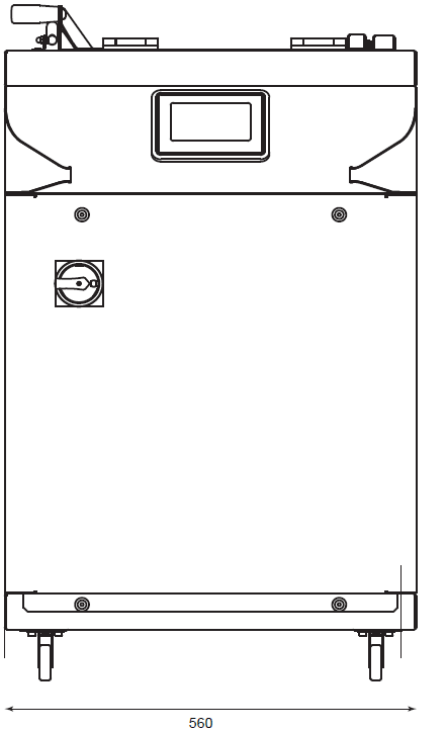
- Check the duration on the touchscreen in settings and set it higher.
- Check the sump for debris.
- Check the drain hose is not compressed or blocked.

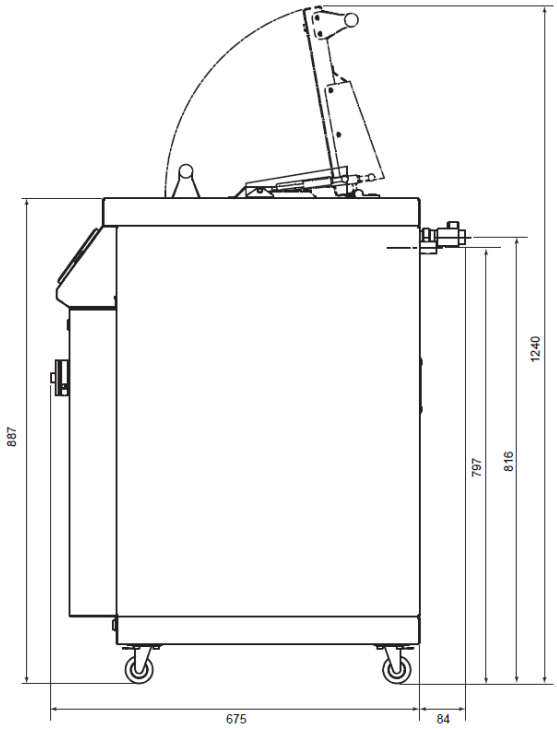
The spin dryer does not work:

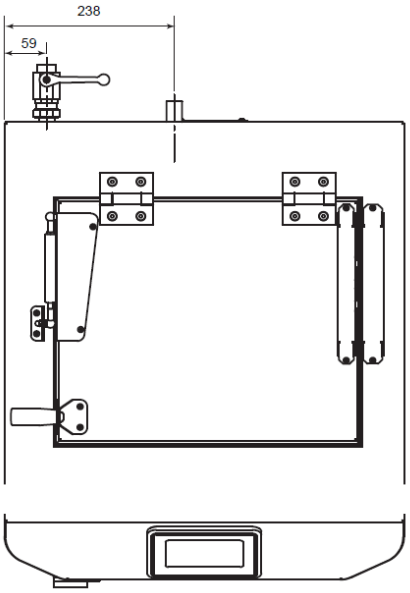
- Close the lid, check the duration on the touchscreen in settings and set it higher.
- Check the drain hose is not compressed or blocked.

TECHNICAL DATA

DynaWash

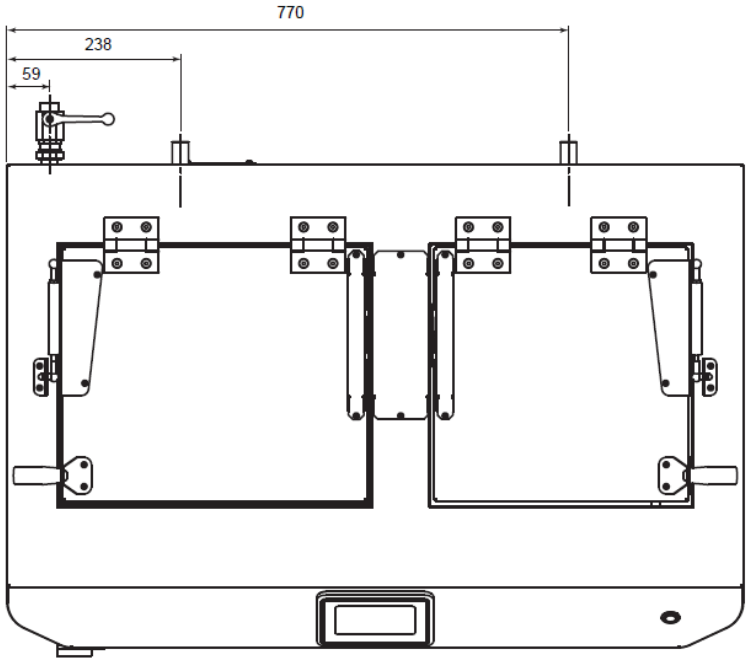


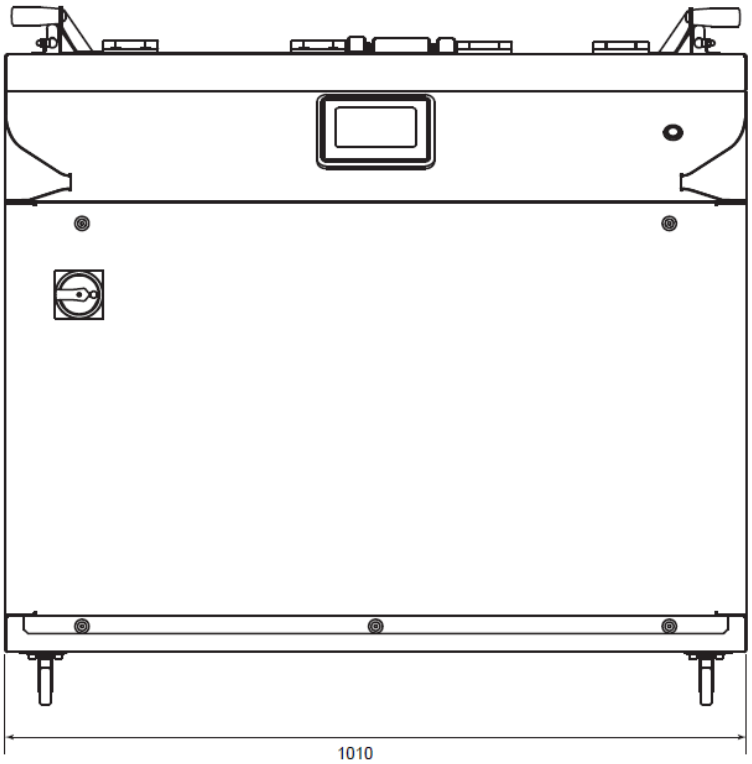


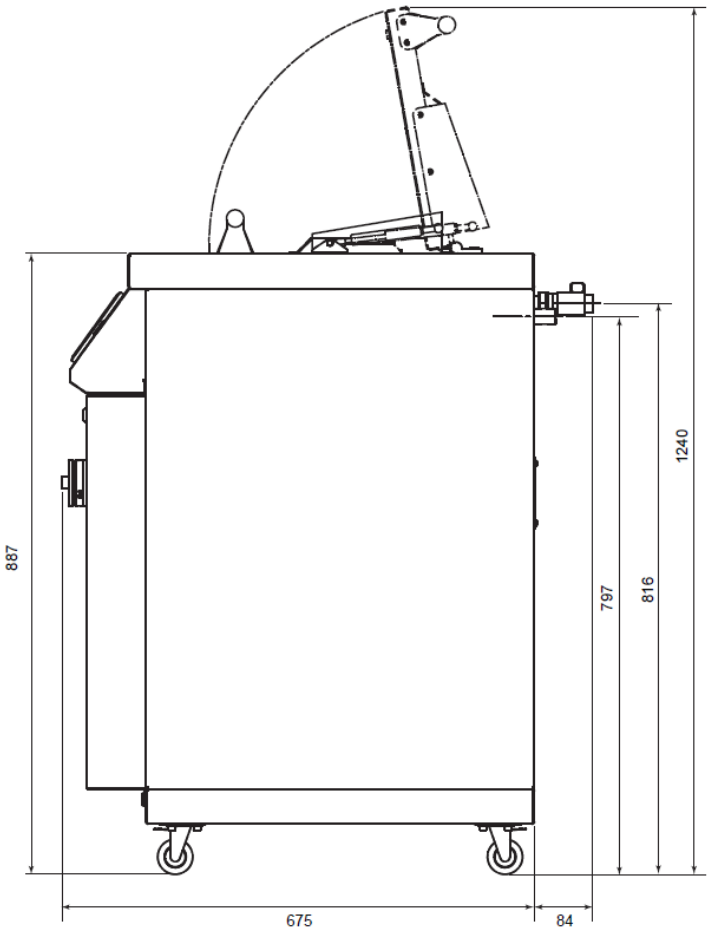


DynaWash	
Item	**Comment**
Electricity	220-240V 50/60Hz 1Ph + N + PE 2500W 11A
Air	Not required
Bench or Floor Standing	DynaWash is designed to be floor standing
Water Supply	Hot or Cold Water Feed: ¾ inch BSP
Drainage	Drain: ¾ inch BSP
Air Extraction	Not required
Conditioning	It is not recommended that this instrument is operated in a conditioned atmosphere.

DynaWash Duo







DynaWash Duo	
Item	**Comment**
Electricity	220-240V 50Hz 1Ph + N + PE 2650W 14A
Air	Not required
Bench or Floor Standing	DynaWash Duo is designed to be floor standing
Water Supply	Hot or Cold Water Feed: ¾ inch BSP
Drainage	Drain: x2 ¾ inch BSP
Air Extraction	Not required
Conditioning	It is not recommended that this instrument is operated in a conditioned atmosphere.

EU Conformity

DynaWash & DynaWash Duo comply with the following directives:

- Machinery Directive 2006/42/EC
- Low Voltage Directive (LVD) 2014/35/EU
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- Waste Electrical and Electronic Equipment recycling (WEEE) Directive 2012/19/EU
- Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU

REVISION HISTORY

See front cover for publication number, e.g., 290-1625.1626-1$A

Revision	Date	Originator	Details Of Revision
A	15.11.2016	CB	New guide
B	30.11.16	CB	Electrical info. / 'User'
C	22.12.16	CB	TS blue bar images
D	21.3.17	CB	Removed standards button
E	26.5.17	CB	New test end heater button Software V1.03.04
F	05 11 19	LK	Washing reference removed