James Heal

Setting the Standard

OPERATOR'S GUIDE

HydroView

Hydrostatic Pressure Tester

Covering Serial Numbers

1936-21-1000 & upwards.

James H. Heal & Co. Ltd
Halifax, England

Publication 290-1936-1$B

Published by:

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

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

INTRODUCTION TO HYDROVIEW

Please read this operator guide before commencing installation and use of HydroView.

Features & Benefits

- 10.1” Touchscreen user interface with TestWise Touch Integration
- Integrated Camera for posttest analysis
- Integrated custom test report generator
- User controllable Audio and Light Alerts
- Integrated wastewater drawer
- Integrated water level control
- Specimen illumination control
- Automatic burst detection
- Capable of providing 10 bar, a 100 meter head of water to specimen.

Service & Calibration

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

Technical Assistance

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

Standards

- EN ISO 811
- EN 343
- EN ISO 9073-16
- NWSP 080.6R0
- JIS L 1092 – Method A
- AATCC 127
- AATCC 208
- GB/T 4774
- BS 2823

GENERAL INFORMATION

Manufactured by:
James Heal™

Richmond Works
Lake View
Halifax
HX3 6EP

Telephone No: 01422 366355

This manual is valid for the James Heal™ HydroView, Hydrostatic Head Tester.

This manual covers the operation and day to day maintenance for the James Heal™ HydroView, Hydrostatic Head 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.

Revision History

See front cover for Publication number, e.g., 290-1536-1

Revision	Date	Originator	Details Of Revision
1	06/05/2021	AC	Op Guide Created
2	04/05/2022	LK	Standard List Amended
3	08/06/2022	LK	European Plug Guidance Added

General Description and Use of Equipment

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

Description of Hydrostatic Pressure

Hydrostatic pressure is the force distributed over an area exerted by water.

Description of Water Resistance

The water resistance of a fabric, is the characteristic to resist wetting and penetration by water.

Description of Water Repellency

The water repellence of a fabric, is the characteristic of fibre, yarn, or fabric to resist wetting.

SAFETY AND ENVIRONMENTAL PROTECTION SUMMARY

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

Safety Summary

Be aware of hazards on instrument indicated by this symbol 

Emergency Stop

This switch is designed to bring the drive mechanism to an immediate halt in an emergency situation.

When pressed the switch will latch in the stop position.

To unlock the switch, twist the red cap in a clockwise direction.

Attempting to start a test with the switch in the stop position will result in a warning message being displayed.

Warning! The safety switch and emergency stop buttons merely stop the machine - they do not isolate it from the electrical supply.

 **Test Area and Moving Components – Warning**

Moving components such as the clamp guard and clamp head represent crush and entanglement risks. It is important that users of the equipment understand these features and residual risks. Stand clear and do not reach into the test area when testing has commenced.

 **Water Spills – Warning**

Make sure any water spilled outside the test head before, during or post testing is cleared. Preventing slips hazards in the lab environment. Contamination of the test area could also occur, reducing the reliability of testing.

Water in System – Warning

Regular cleaning of the system is required to prevent the risk of waterborne diseases such as Legionnaires'. See Cleaning & Maintenance for further details on how to clean the system.

Electric Shock – Warning

No access to the internal workings of HydroView 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 rear right hand side of the instrument.

Access – Warning

Do not allow general access to HydroView only to those competent and trained personnel. HydroView should be stored in a controlled environment where only authorise 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 HydroView, 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.

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 the 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.

Operator Safety

Warning

There is a possible hazard of the sample rupturing, splashguard must be fitted when in use.

Appropriate Personal Protective Equipment (PPE) must be worn when using the instrument, performing regular testing tasks and performing maintenance.

Warning

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

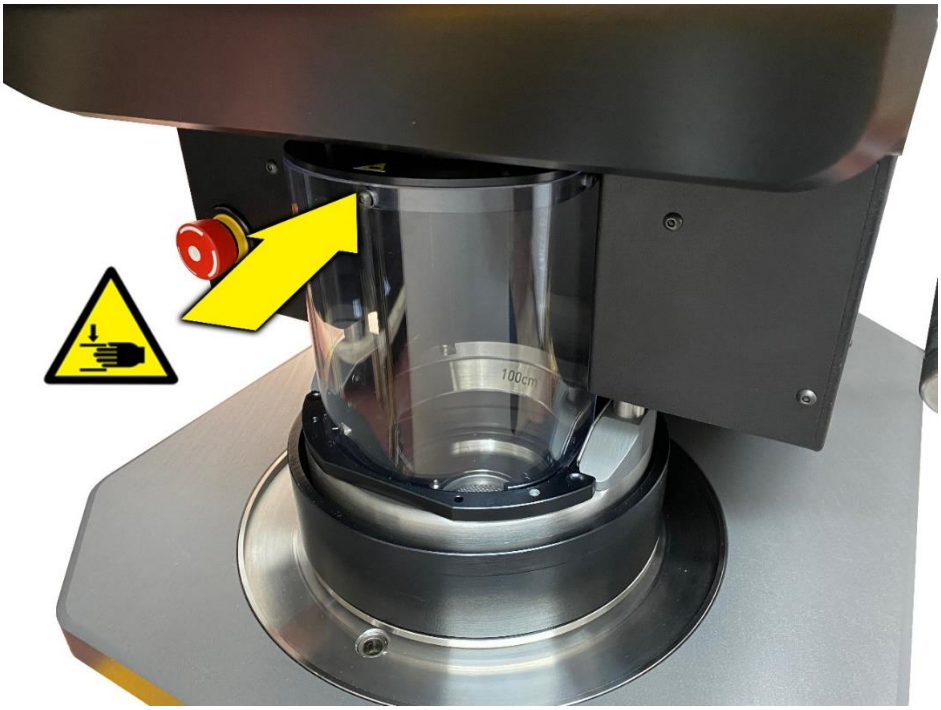
Access to the main electrical power isolator must not be obstructed.

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.

Finger Trap Hazard

When operating the splash guard from its clamped position to its un-clamped position ensure you have your hands away from the test area.



Customer Responsibilities

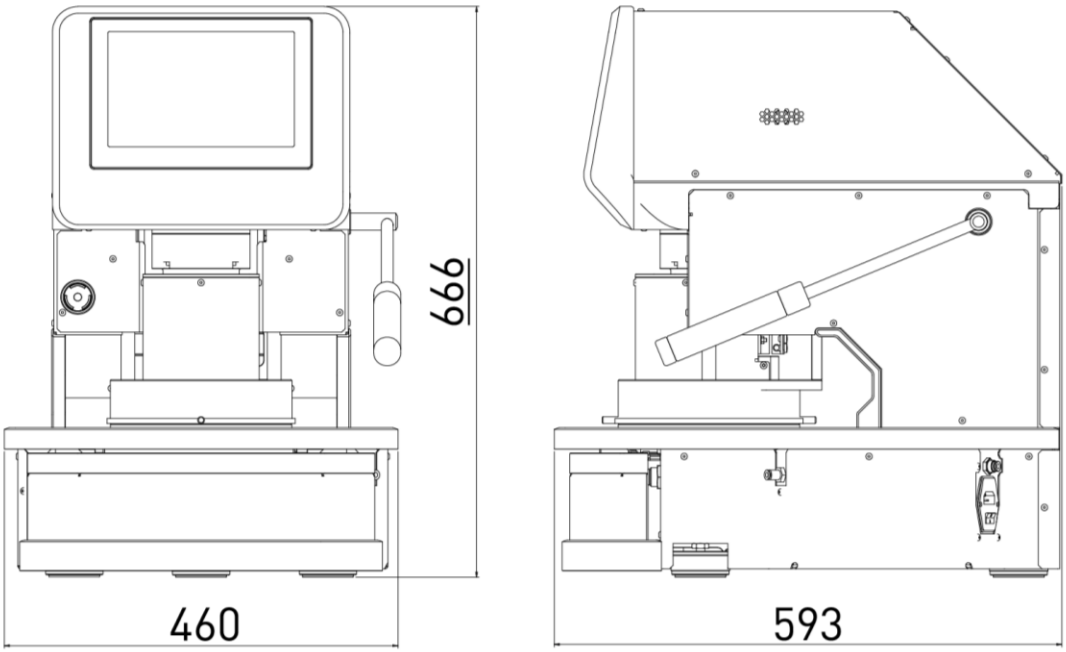
Cleaning & Maintenance

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

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

INSTRUMENT SPECIFICATION

	James Heal™ HydroView
Machine Only W x D x H (mm / inches) Weight (kg / lbs)	W 460 x D 593 x H 666mm W 18.11 x D 23.35 x H 26.22” 100kg
Electrical Requirements	Voltage: 120-240V Frequency: 50/60Hz Current: 1A



PRE-INSTALLATION

Preinstall Checklist

HydroView 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 HydroView has a weight bearing capacity of at least 100kgs.
2. The final location is set at a usable access height, for users to load the samples and interact with the touch screen.
3. Ensure the surface is level, some adjustment can be achieved through the adjustable feet on the instrument.

Customer Responsibilities

The James Heal™ HydroView 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 HydroView 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.

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: 460mm
Minimum height: 666mm
Minimum Depth: 593mm

Minimum weight: 100kg

General Planning

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

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.

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.

Electrical Specifications

Voltage: 120-240Vac
Frequency: 50/60Hz
Current: 1AT
Fusing: 2 x 10AT Time delay fuses
Caution: Double-pole neutral fusing.

This instrument is supplied with a European mains plug lead.
Using European plug leads can result in polarity reversal.
Therefore, double fusing is used within this equipment.
This ensures that protection is provided for both phase-to-ground faults & phase-to-neutral faults.

Power Cord

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

INSTALLATION

Receiving Inspection

Your James Heal™ HydroView 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.

Unpacking

Unpacking Checklist

List of components/assemblies that will be delivered:

Stock Code	Item name	Quantity
905-400	HydroView Instrument	1
551-302	Splash Guard	1
551-222	Wastewater Draw	1
794-763	Handheld Button / Switch	1
551-301	Sample Plate	1
794-819	Pneumatic Adaptor	1
551-204	Water Level Wiper	1
	x2m: 8mm OD Black Nylon Tube (Water)	1
327-378	x2m: 6mm OD Soft Nylon Tube Blue (Air)	1
551-305	8mm Pipe Sinker	
785-118	Blue ‘J’ Cloth	1
142-304	Mains Lead Straight (US, EURO, UK)	1

Moving the Instrument

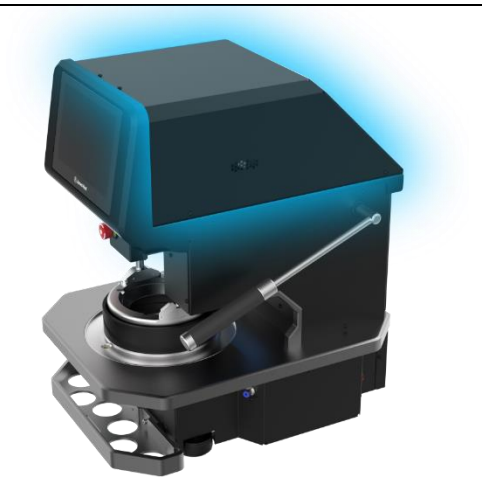
Warning
Personal Protective Equipment must be worn, safety shoes and non-slip gloves.

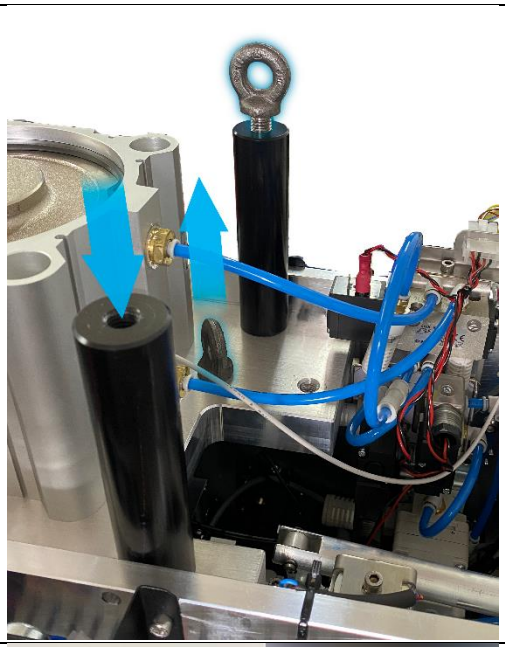
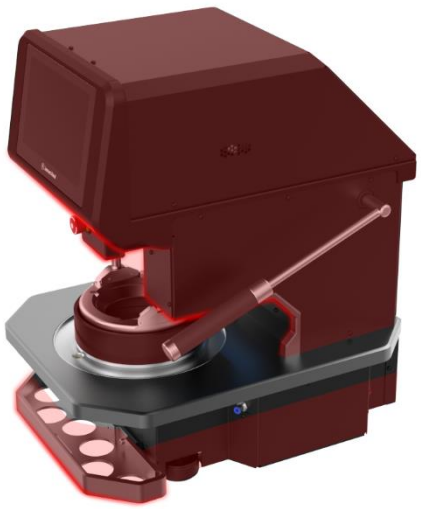
The equipment is heavy. Use sufficient personnel and/or lifting devices for its movement. Provide the necessary equipment, taking note of the centre of gravity to ensure the lift is completed in a safe manner.

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.

Lifting Points + Transport

1. To access the lifting eyes remove the top cover. Make sure that the instrument isn't plugged in and doesn't have any water within the instrument.	

2. The lifting eyes will need to be removed from the storage holes on the chassis and inserted into the top of the lifting pillars. Once the instrument has been lifted into its operational position, remove the lifting eyes, and return the upper cover to the instrument.	
3. Use a scissor lift or portable lifting platform to transport the instrument.	
4. Do not lift the instrument from the regions highlighted in red. - Under screen bezel - Sheet metal above test area. - Drawer slider.	

Installation Procedure

Ensure path to installation site is clear of obstacles and suitable lifting equipment is available, see pages 16-17.

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

It is important the instrument is levelled during the installation of the instrument, see page 19.

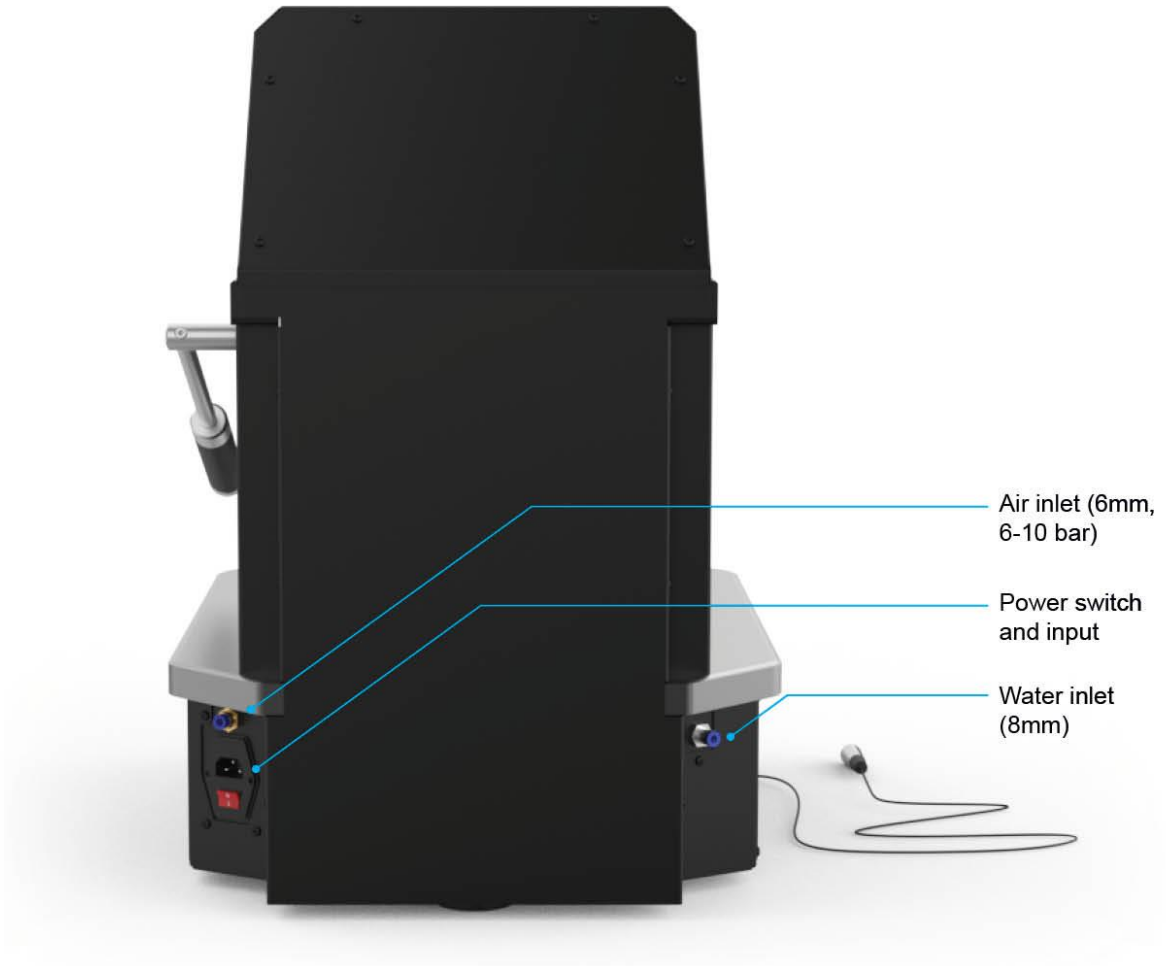
Ensure it is located close to a power supply.

Air Supply:

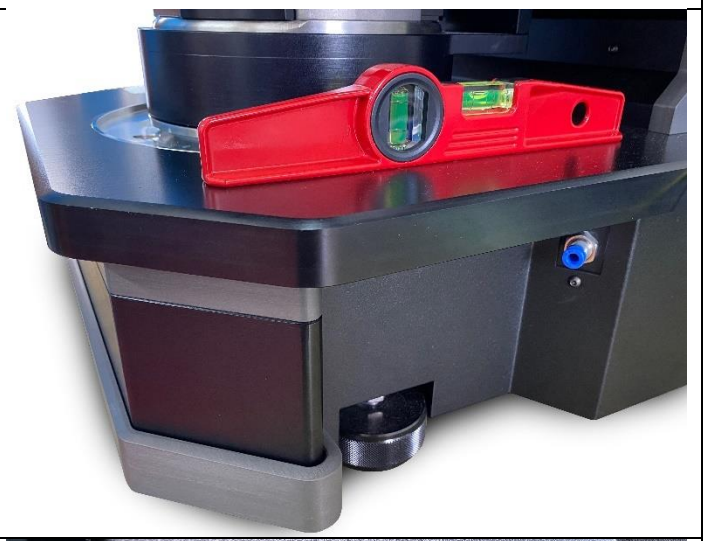
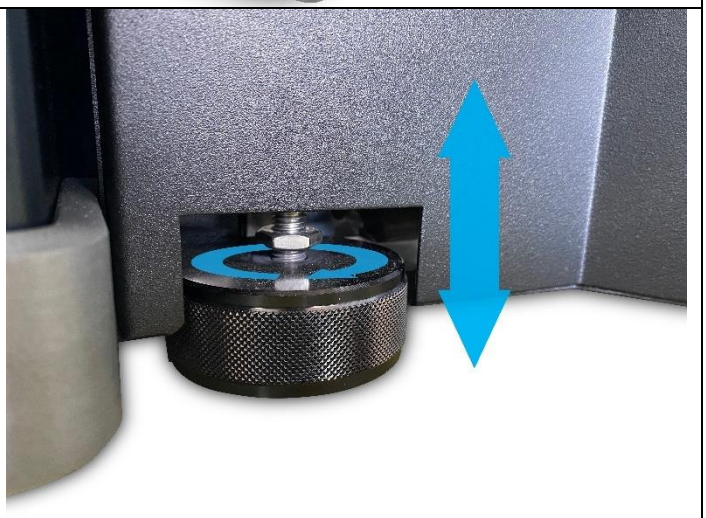
- 10 Bar for best clamping performance.
- 6mm outside Diameter Pipe. (Same side as power supply.)

Water Supply:

- 8mm Outside Diameter Pipe (opposite side to power supply at the rear of the instrument.)



Levelling the instrument

1. Check the level of the instrument using a spirit level.	
2.	
3. Adjust the left and right feet to ensure that the test area is level. It is important that the test area is level to ensure that there is no air trapped under the test specimen.	

Connections Preparation

Electrical

- Stand the instrument on a firm and level surface.
- Connect the electrical power supply to the mains input using the lead provided taking note of the electrical specifications on page 14.

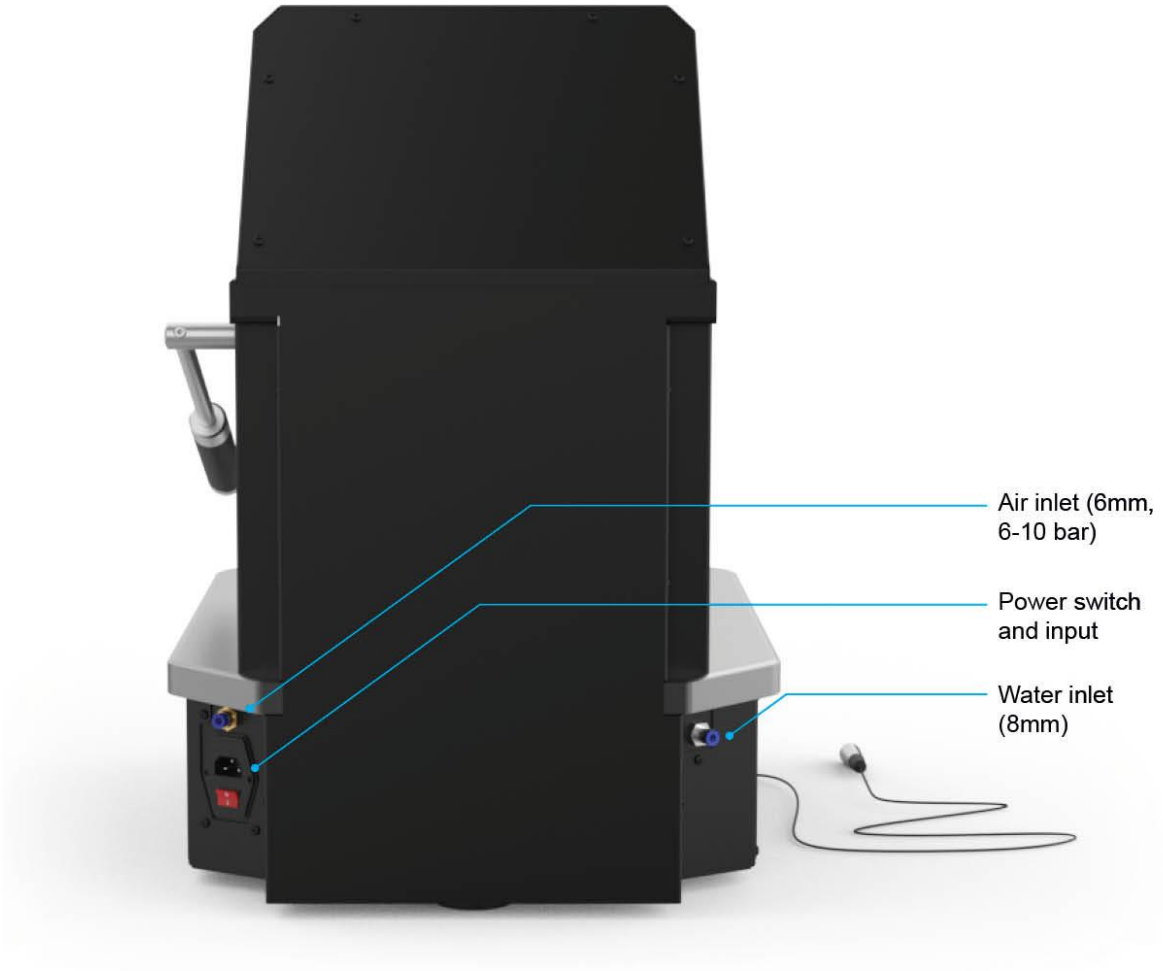
Spares

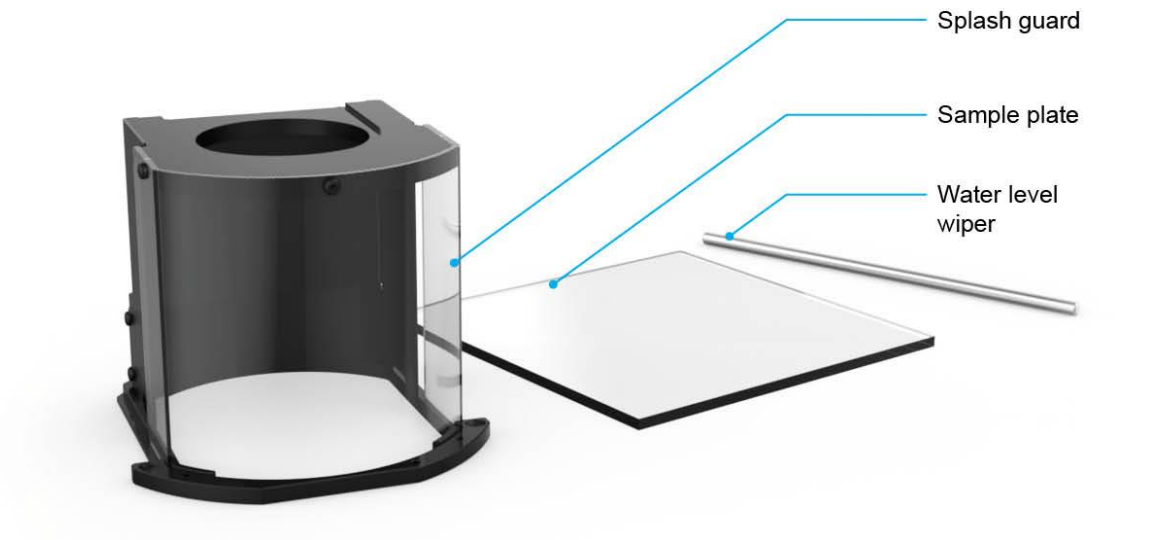
Part Spares	Quantity Provided	Stock code
Splash Guard	1	551-302
Wastewater Draw	1	551-222
Handheld Button / Switch	1	794-763
Sample Plate	1	551-301
Pneumatic Adaptor	1	794-819
Water Level Wiper	1	551-204
x2m: 8mm OD Black Nylon Tube (Water)	1	
x2m: 6mm OD Soft Nylon Tube Blue (Air)	1	327-378
8mm Pipe Sinker	1	551-305
Blue ‘J’ Cloth	1	785-118
Mains Lead Straight (US, EURO, UK)	1	142-304

PRODUCT OVERVIEW

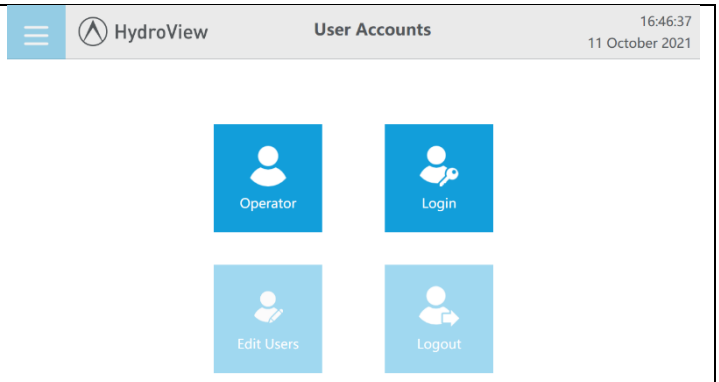
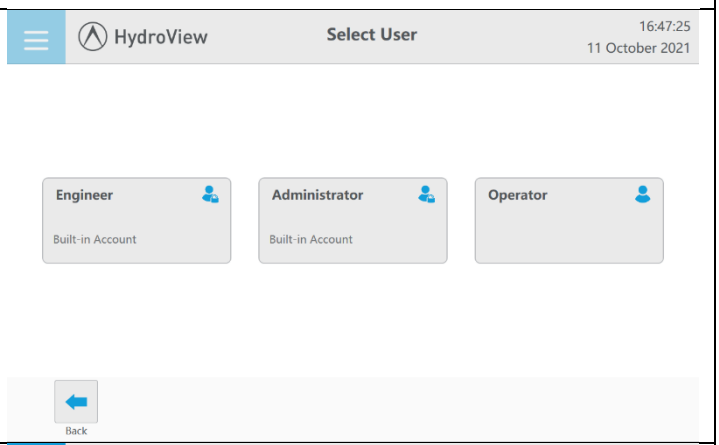
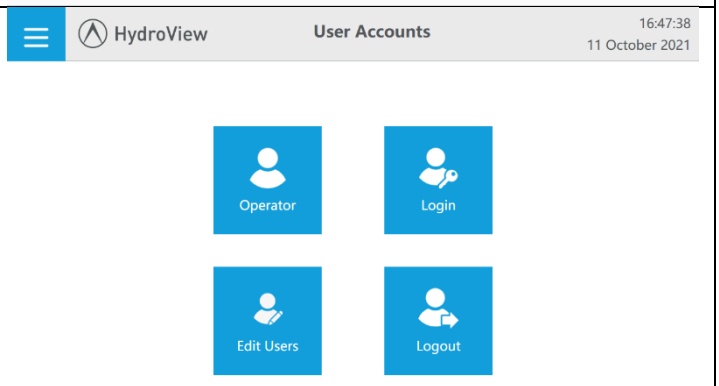
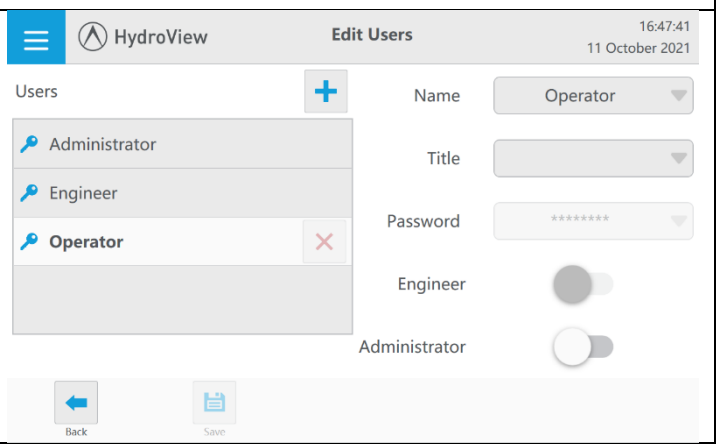
Instrument and Components

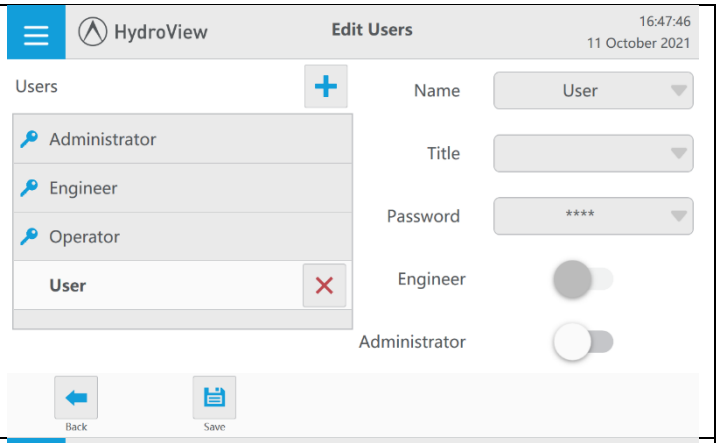
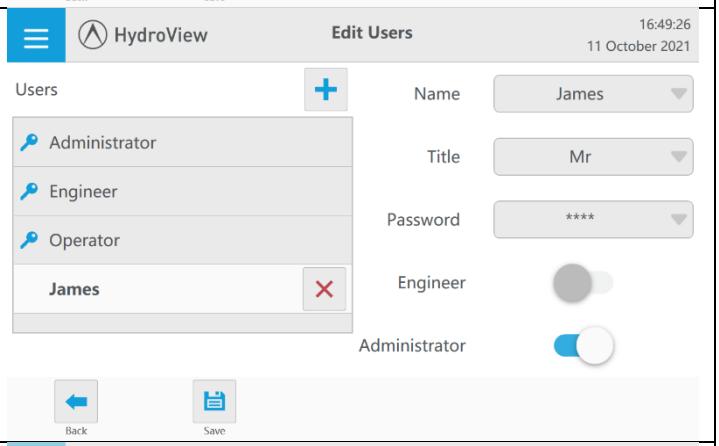
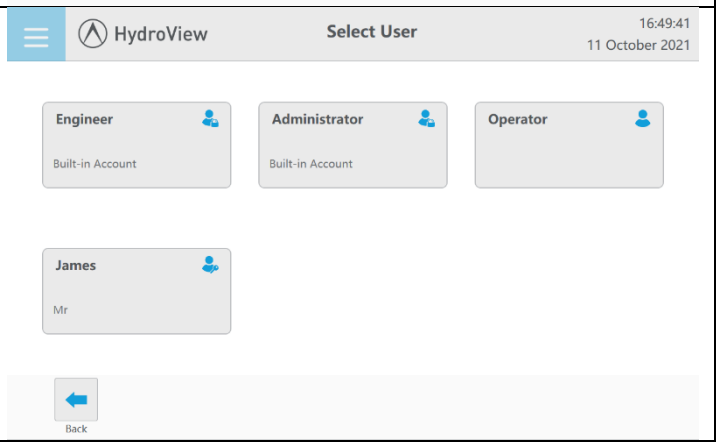

Upper test clamp
Lower test clamp
USB Port
Hand switch


Air inlet (6mm, 6-10 bar)
Power switch and input
Water inlet (8mm)


Splash guard
Sample plate
Water level wiper

User Creation and Management

1. Administrators can create individual user profiles to be used on the instrument. Allowing users to own test results.	
2. Login as administrator or engineer.	
3. Select edit users.	
4. To create a new user press the plus button. To delete a user press the red X. If you delete a user by mistake hit back and select no, so no changes are made.	

5. Edit/Enter a new username by selecting the username button. A keyboard will pop up to allow you to type a new name. Select the tick button to confirm.	
6. Add a title and a password to the user in the same way. You can provide the new users with administrator permissions, (See below) Select save to create new user. This will return you to the user account menu. Log out.	
Once logged out, select Login and select the new user, enter the password if you have set one for the new user.	

User Permissions

Administrator

- Testing: Standards and Quick Test
- Standards: Management
- Test History: Management
- Reports: Export and Customisation
- System: Management

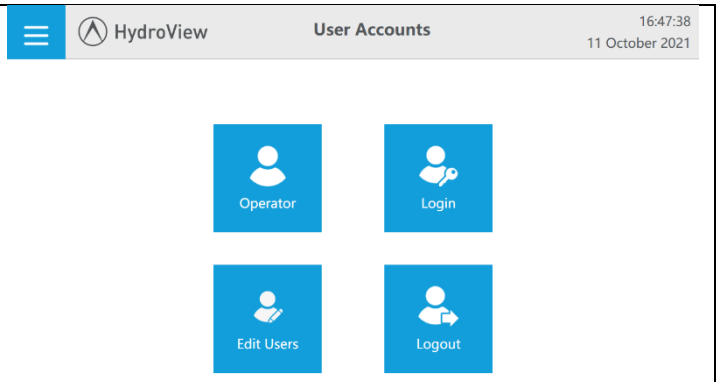
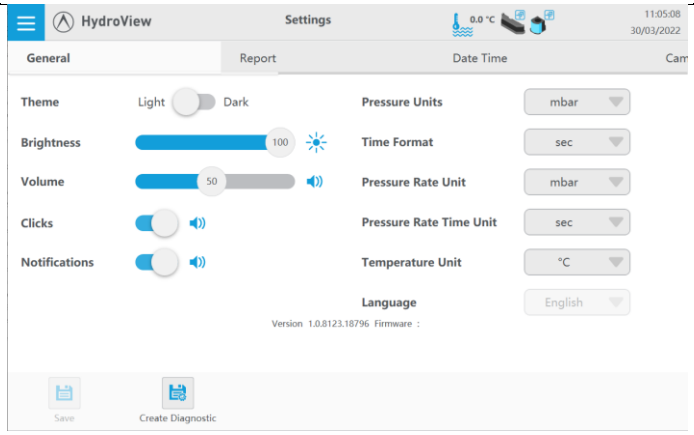
Operator

- Testing: Standards and Quick Test.
- Test History: Management
- Reports: Export and Customisation

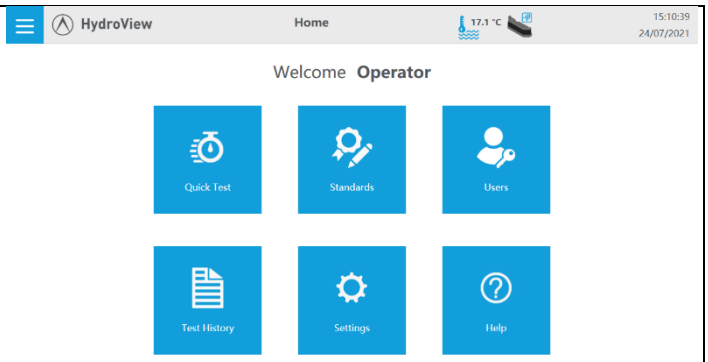
Engineer

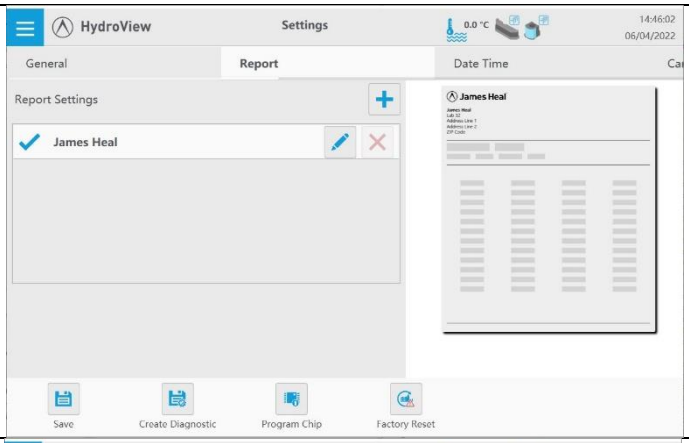
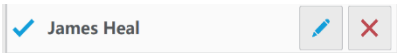
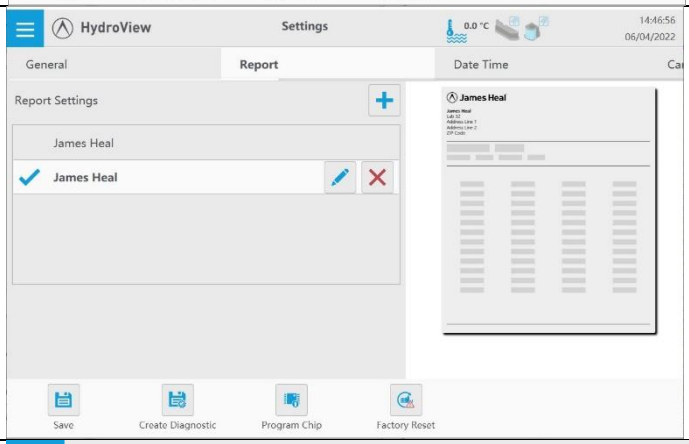
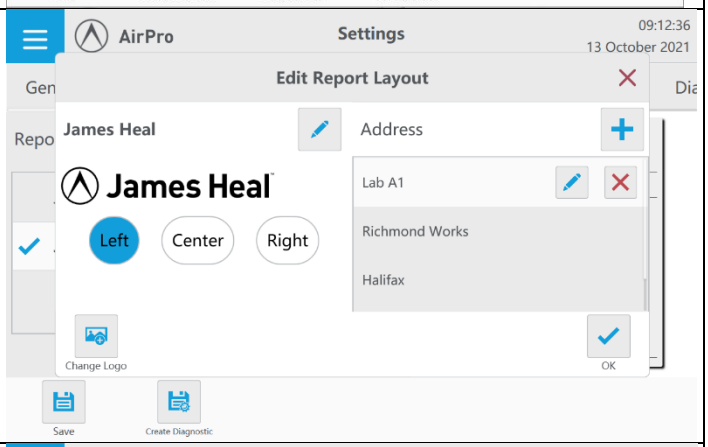
Calibration and Instrument Set Up
Plus management of all other features

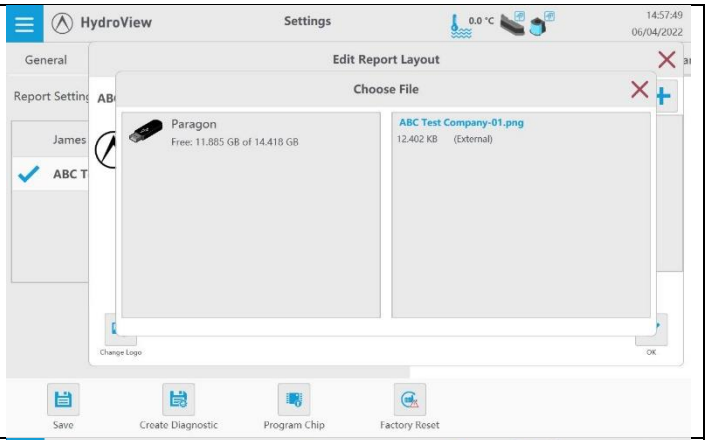
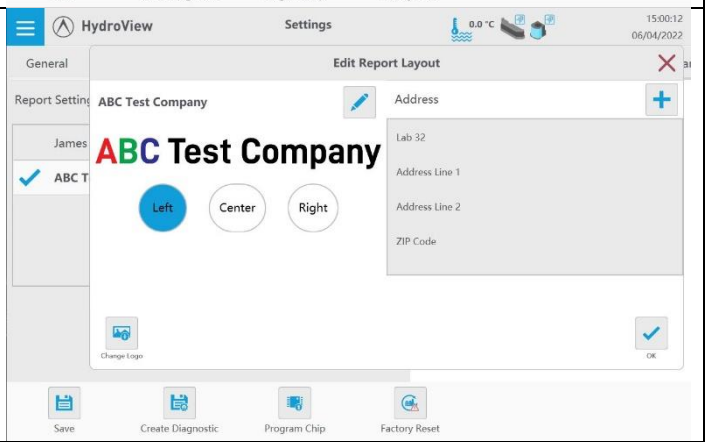
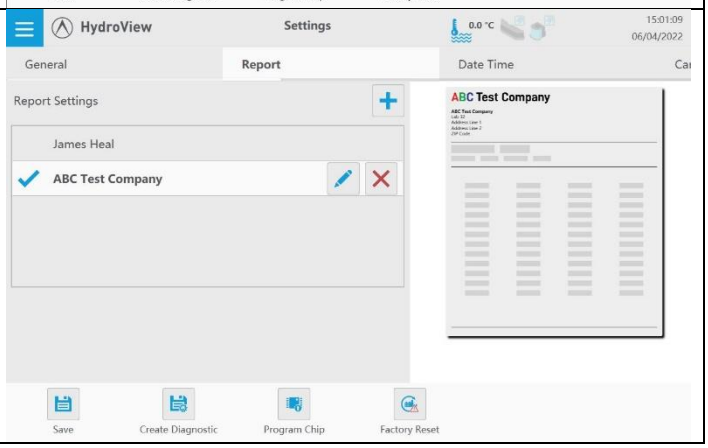
General Settings

Login and select settings icon from the home screen.	
Various system settings can be controlled. Not all users can access all setting menus. Theme: Light and Dark Screen brightness: 10 – 100% Volume: 5 – 100% Sounds: clicks and notifications Default Test Parameters: - Pressure Unit - Time Format - Pressure Rate Unit - Pressure Rate Time Unit - Temperature Unit See your administrator to change the system language.	

Report Editing

1. To create new report tiles login as an administrator. Regular operators can edit existing report titles but can't create new ones. Select settings from the home screen.	

2. From the settings screen, select report on the menu bar.	
3. To create a custom report header for your PDF reports, select the plus icon. Select the copied report header, it will be highlighted with a blue tick.  Select the pencil icon to edit the report header.	
4. Here you can enter your company name or a customers. Add a logo and align it. Add multiple lines for address and contact details.	
5. Select the pencil icon on the left hand side of the screen to edit the report title / company.	

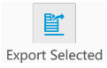
6. To change the header logo you will need your logo on a USB as a JPG or PNG file. Select the change logo icon.  Select your logo file and select the upload icon.  This will then display your uploaded logo on the report layout screen.	
7. Add your address, contact or other useful details you would like to add to the header. Select the plus button to add fields.  Then simply select the cross to delete or the pencil to edit.	
8. When you are happy with your customer header select ok, select the save button to save the custom report header.	

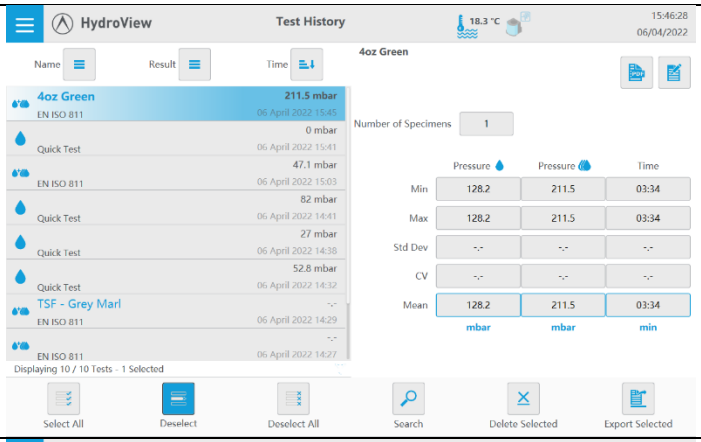
Exporting Results

1. To select individual tests for export select and hold, the result will be highlighted blue.

The selected test results will be displayed on the right-hand side.

Select export selected:



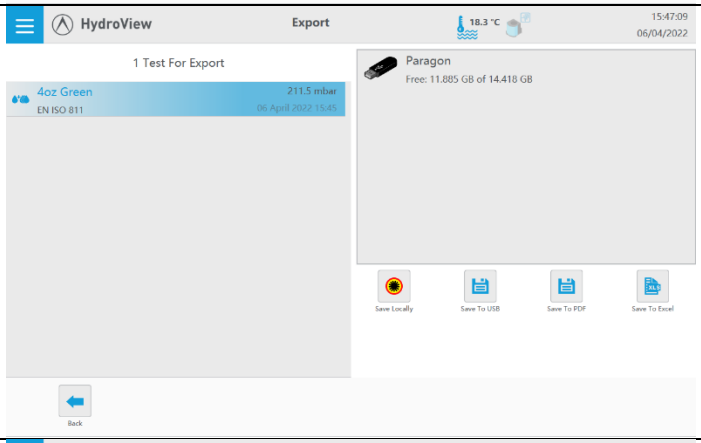


2. Select the USB device you would like to save to on in the right-hand column.

You can back up the raw AirPro files to the USB.

Export the test report as a PDF.

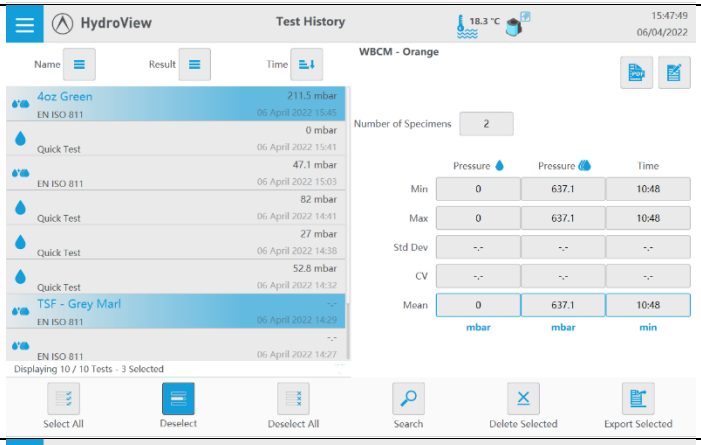
Export the results as an excel file.



3. You can select multiple tests for export at the same time.

Simply select and hold each test to highlight these and then select export selected.

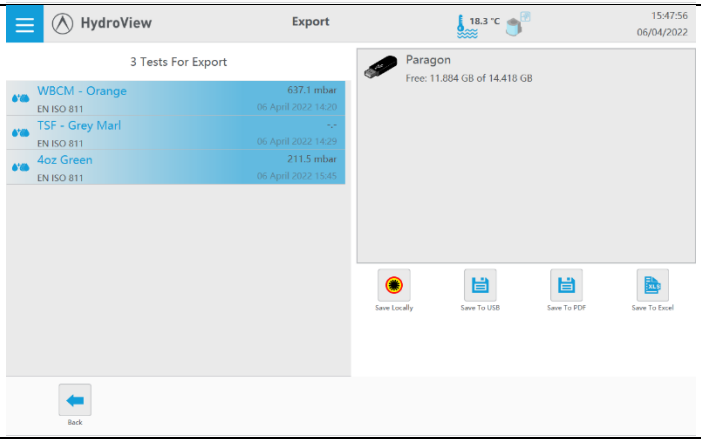
You can also search and block select searches. See page 30 test history management and searches for more detail.



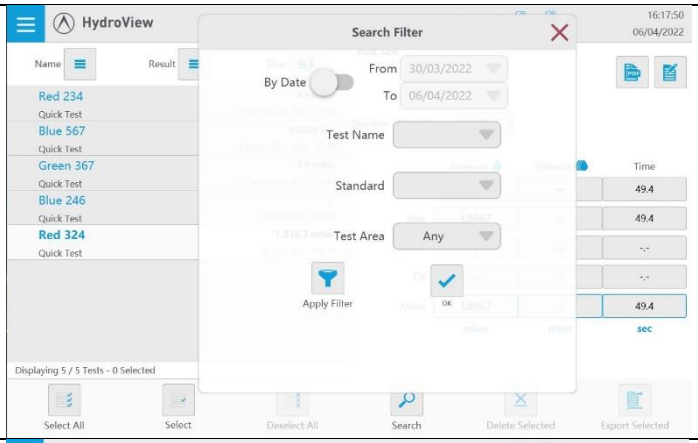
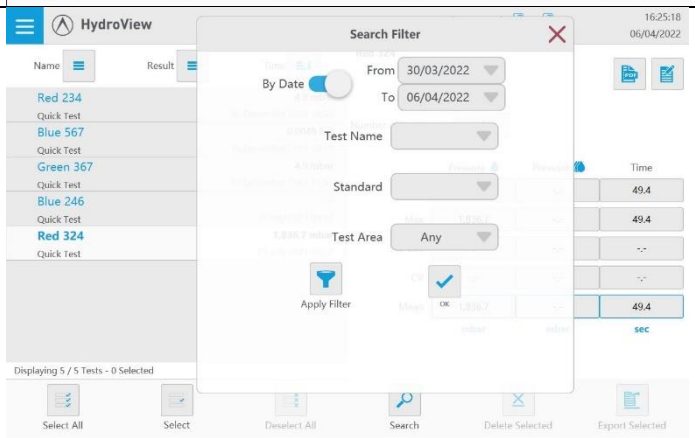
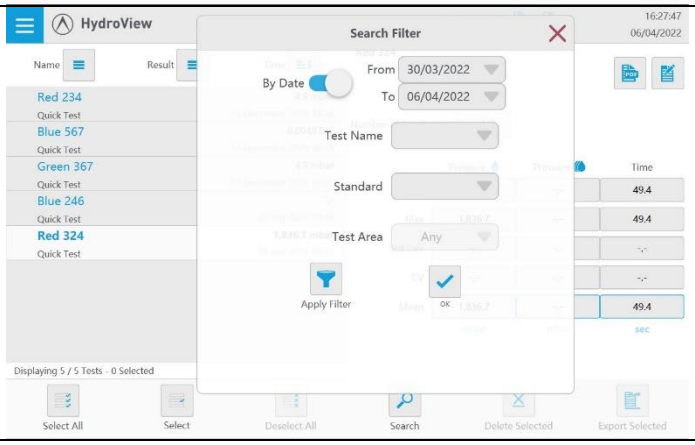
Backup the raw HydroView files to the USB.

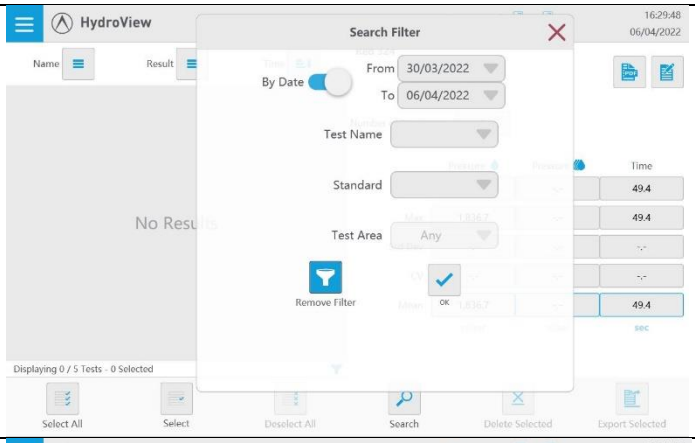
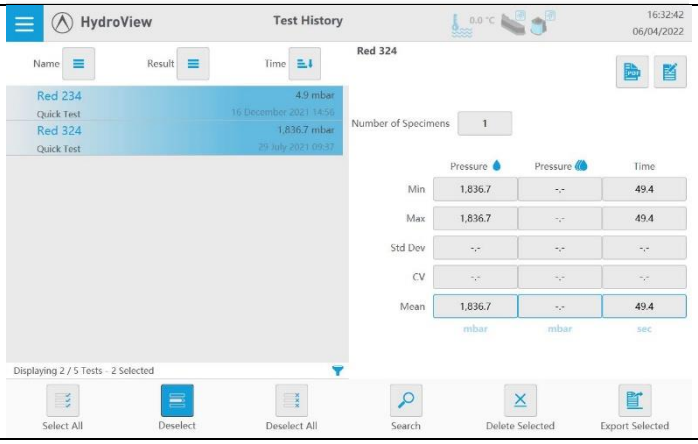
Export the test report as a PDF.

Export the results as an excel file.

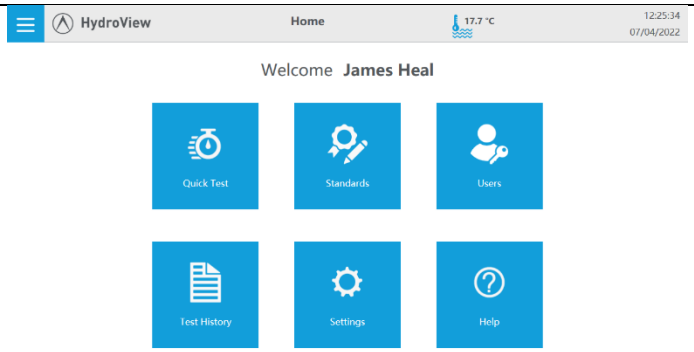


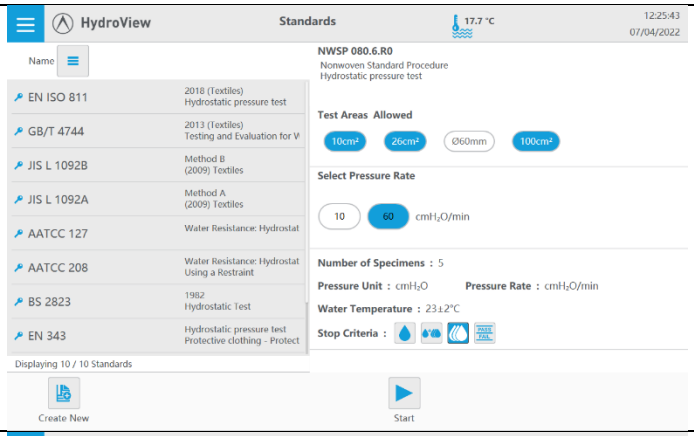
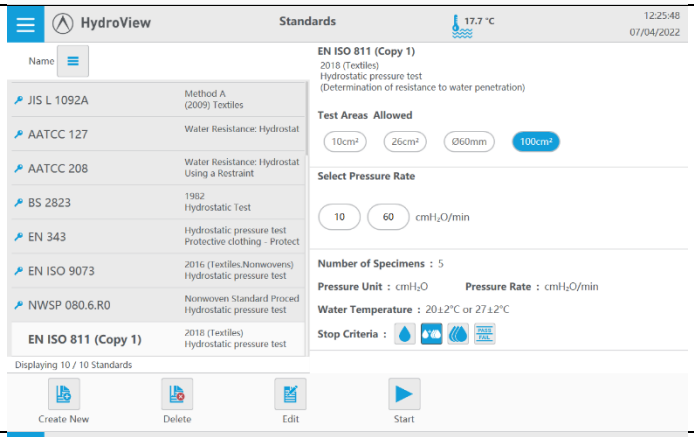
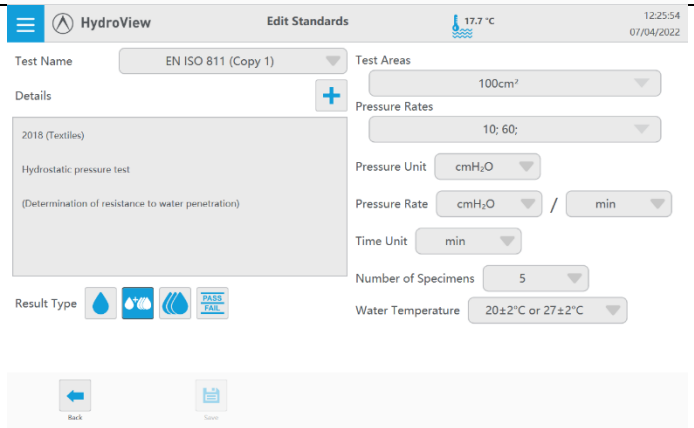
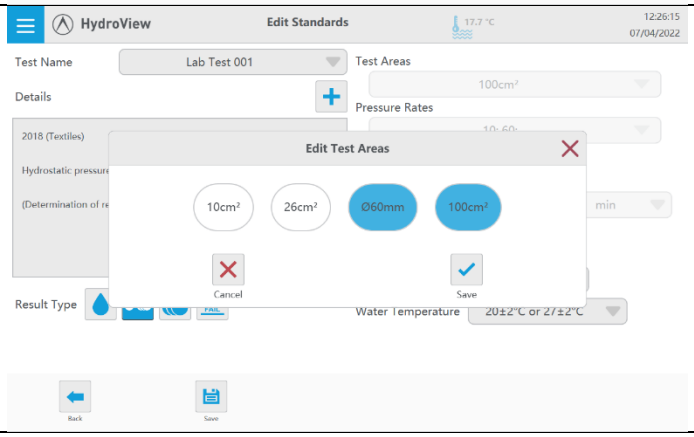
Test History Management and Searches

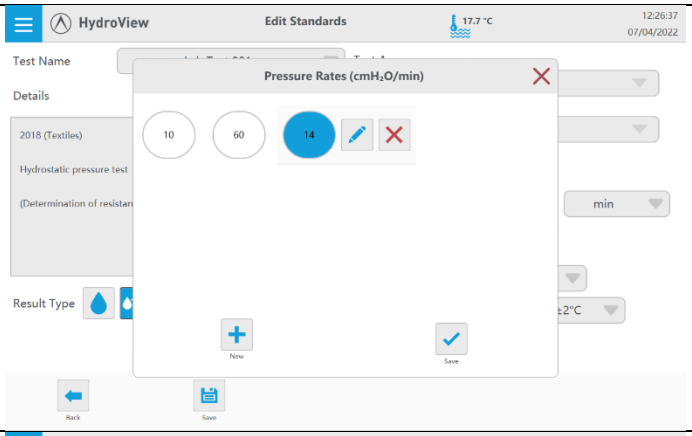
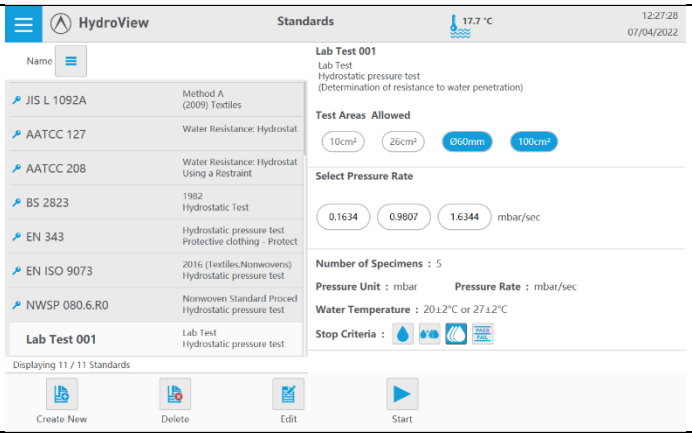
1. You may want to search for past results or to delete old results that are no longer needed in HydroView.  Select the search icon to open the search filter.	
2. You can quickly filter and search a variety of ways. Simply press the search button. You can filter by: • Date • Test name • Standard • Test area	
3. To filter by date simply switch on the by date filter and select the dates that you would like to filter to start from and end at. Select the ok button to finish your selection. To search by test name, standard or test area simply select the field and input the search criteria.	

 4. To apply any filters select the apply filter button. Then press ok to view the filtered results. To remove the filter, return to the search filter menu and then select remove filter. 	
5. Once a search filter has been applied, you can select all by pressing the select all button. This is useful for exporting all the tests that have been identified by the filter, you may also want to delete these files if you do simply select delete selected. The system will check if you are sure that you would like to delete these files before completing.	
6. We recommend backing up and then deleting your test history from the instrument at regular intervals to prevent the system from becoming cluttered.	

Custom Standards Creator

1. From the home screen select the standards selector menu.	

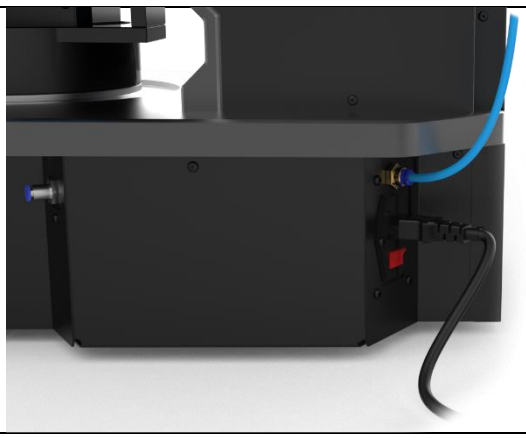
2. To create a new standard select create new. Depending on which standard you have selected the 'create new' will make a copy of that particular standard.	
3. Once a copy has been made you can then edit the new standard. Select the new copy and then select edit. You can't edit pre-set standards.	
4. From the edit standards menu you can rename the standard name and provide detail on the standard. Customise the valid test areas and pressures for your test, as well as the default result unit.	
5. Select or deselect relevant test areas.	

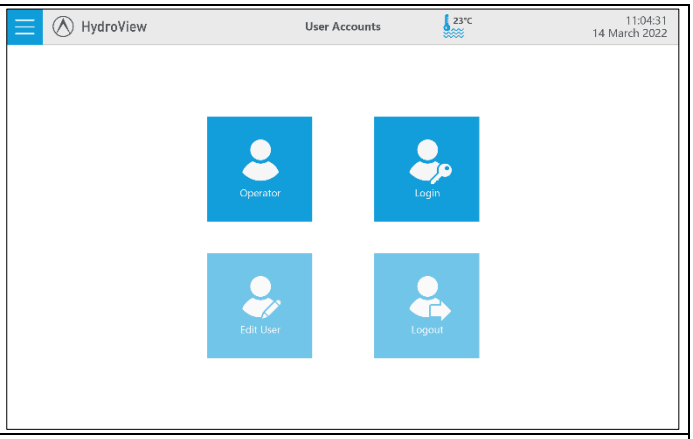
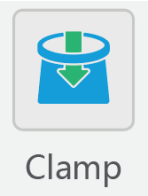
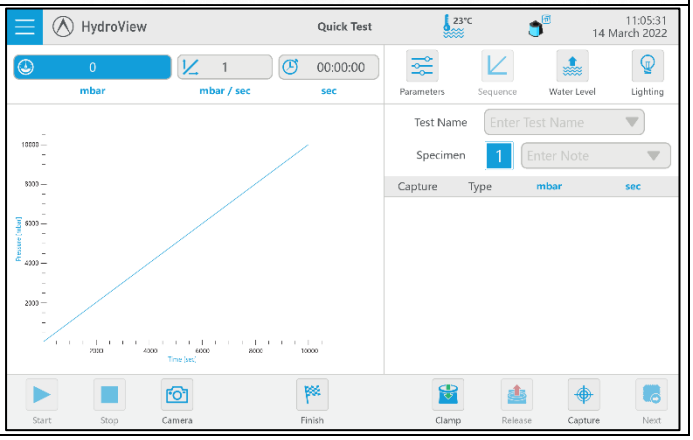
6. Set valid test pressures. The following default test fields can be customised: - Pressure Unit - Rate Unit / Time - Time Unit - Number of Specimens required - Temperature Parameter - Result Type	
7. Example of customer standard. Select start to begin testing with this new standard.	

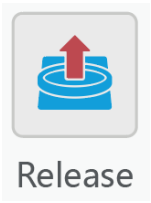
OPERATION & TESTWISE TOUCH FOR HYDROVIEW

Test Preparation

Basic operation of pneumatic clamp

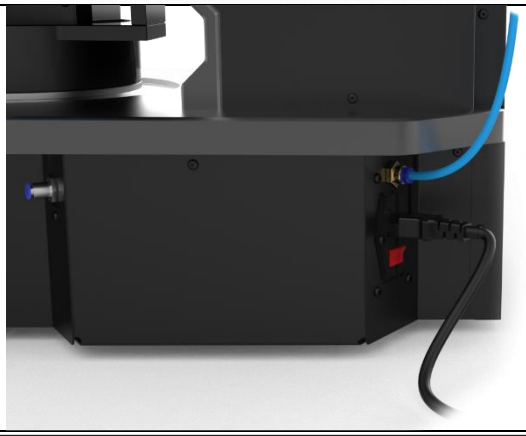
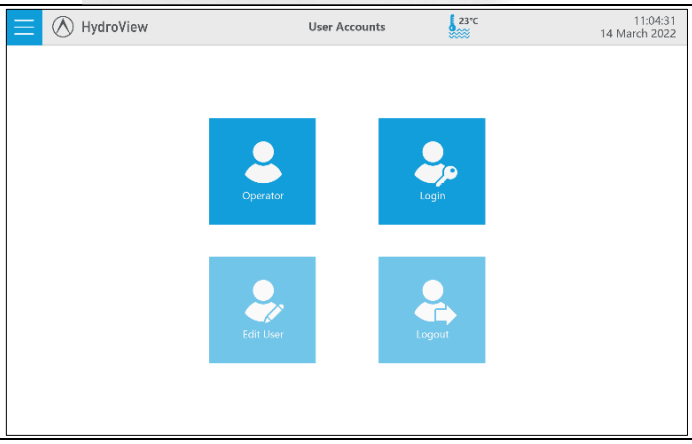
1. Ensure the 6mm airline is inserted into the inlet for the system pressure. It should be set to a pressure of no more than 10 bar and at a minimum of 6 bar. At low pressures you may not be able to affectively clamp specimen. 2. Turn on the instrument, the power switch is located on the right-hand side, lower panel of the instrument.	

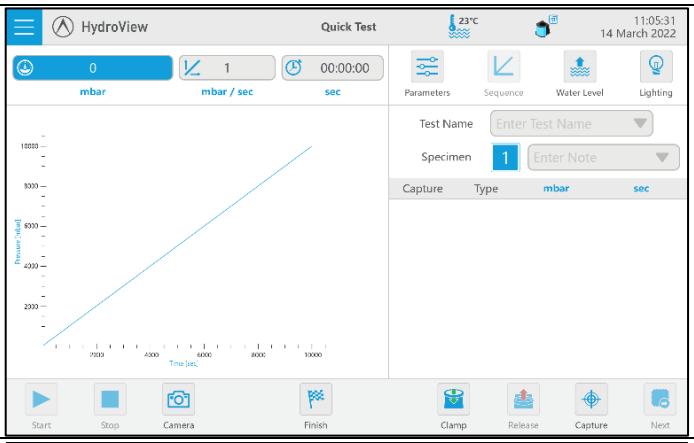
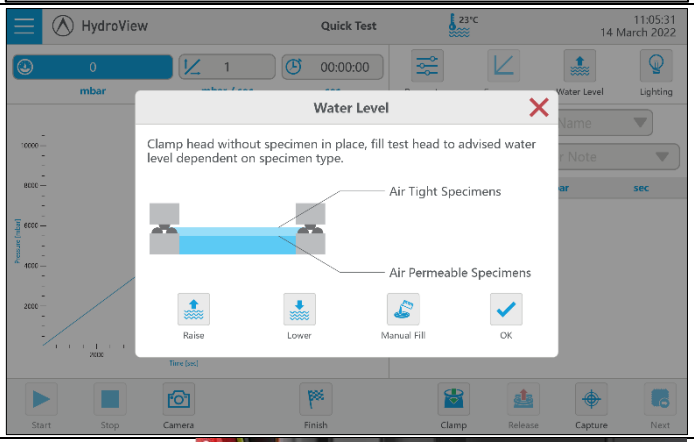
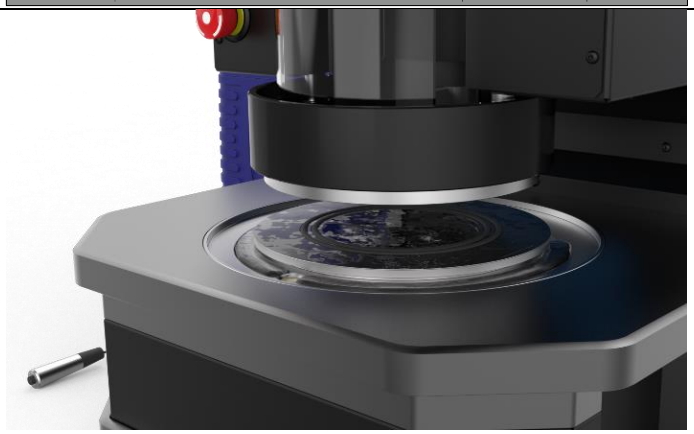
3. Login and select quick test. - Select operator or login to your user account.	
4. If the clamp and manual guard are both in their upper position you will need to close the clamp. To close or clamp a specimen, lower the manual guard first. *If the clamp is active or down, see point 7.*	
5. Make sure the splash guard is inserted before trying to activate the clamp.	
6. Then press the clamp button this will operate the clamp. 	

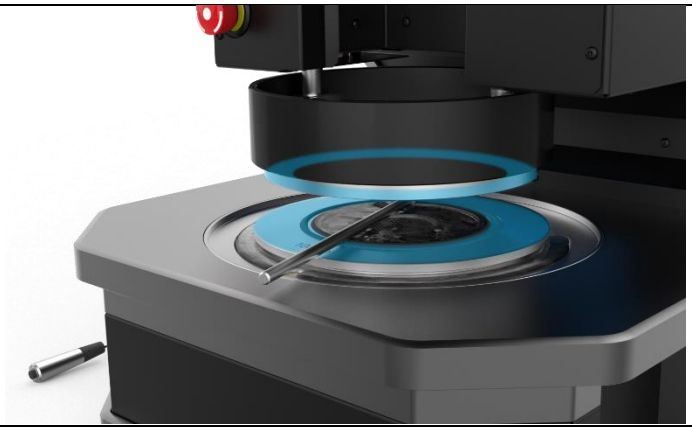
7. To release the clamp press the release button do this before raising the manual guard.  If the manual guard has already been raised, return it to the down position. The clamp will not raise unless the manual guard ring is down.	
7.1. If you need to remove the splash guard for any reason remove it before raising the manual guard.	
8. Once clamp is raised you can now move up the manual guard handle, to allow access to the test area.	

Filling the instrument

1. Identify a vessel of water, a minimum of 2.2 Litres is required to fill the instrument. (The specification of water that should be used will be specified in the standard you are testing to.) 2. Insert 8mm diameter pipe into vessel of water, ensure it remains submerged preventing air being drawn into the system.	

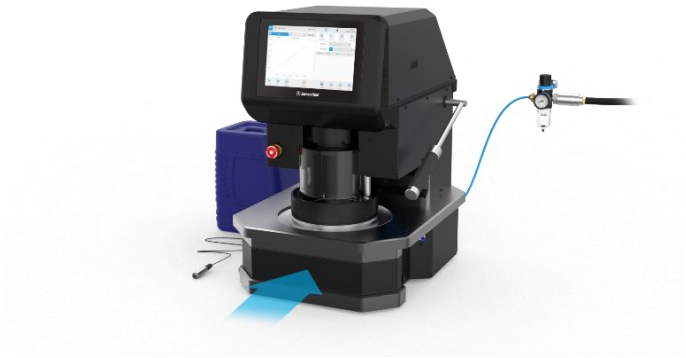
3. Ensure your wastewater drawer is installed correctly before filling the instrument.	
4. Turn on the instrument, the power switch is located on the right-hand side, lower panel of the instrument.	
5. Log in as any user type and select quick test.	
6. Check the manual guard and pneumatic clamps are in their upright position. (see page 35 for the basic operation of the pneumatic clamp.)	

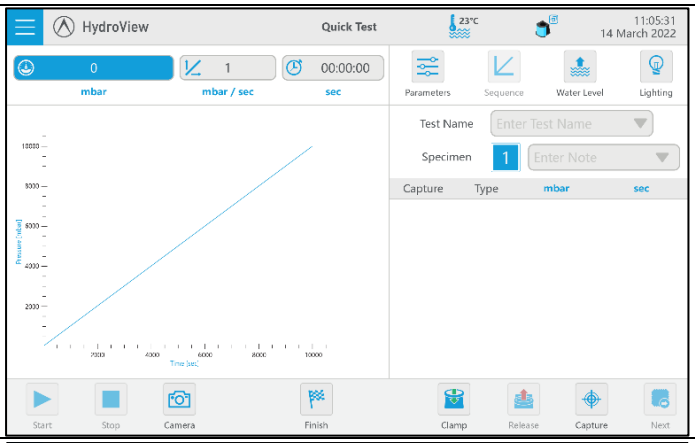
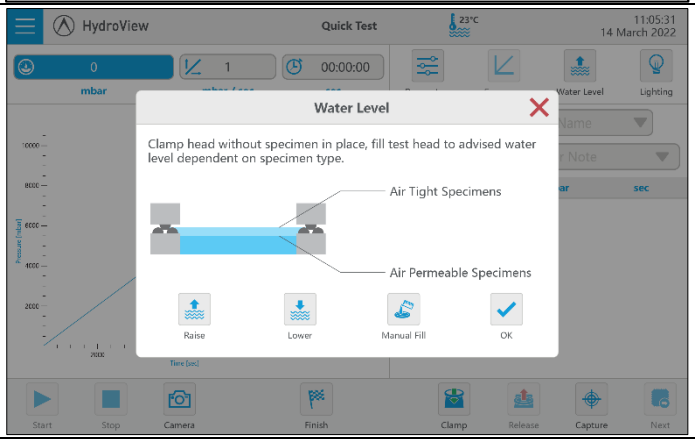
5. Select the water level symbol.  Water Level	
6. Select the raise button on the water control menu. The instrument will automatically fill until the water is just in the specimen area.  Raise Wait for the system water level to equalise when filling the instrument.	
7. Hold the fill button to adjust the final fill level.  Raise If debris can be seen is the test area overflow the water until it runs clear. Check there is sufficient spare water in your external vessel if there is a significant build-up of debris.	
8. To manually fill the instrument, the splash guard needs to be removed. Select manual fill to enable this.  Manual Fill	

9. Once the water is running clear make sure you empty the wastewater drawer and return it to the instrument before commencing testing.	
10. Before starting a test, ensure that the water level is set to the level as documented in the specific standard being used to test. The water wiper can be used to assist this. Ensure both the upper and lower O-ring seals and clamp surface are dry before inserting the sample.	

Draining the system

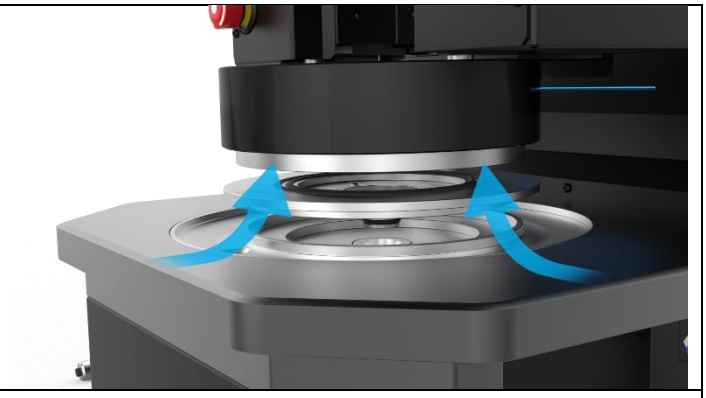
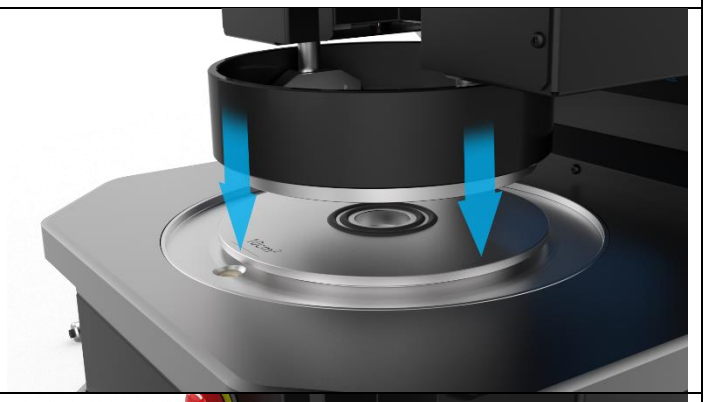
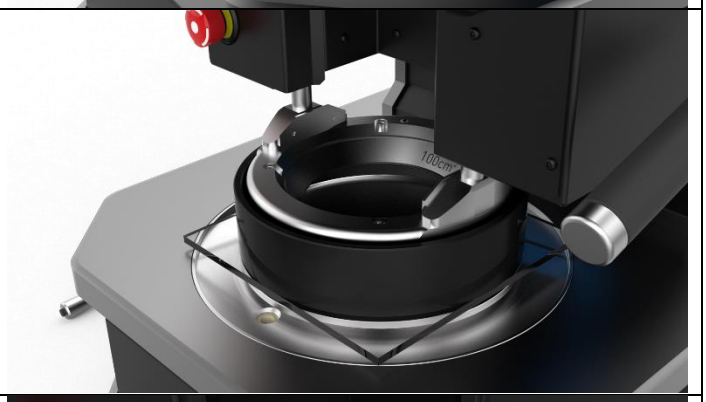
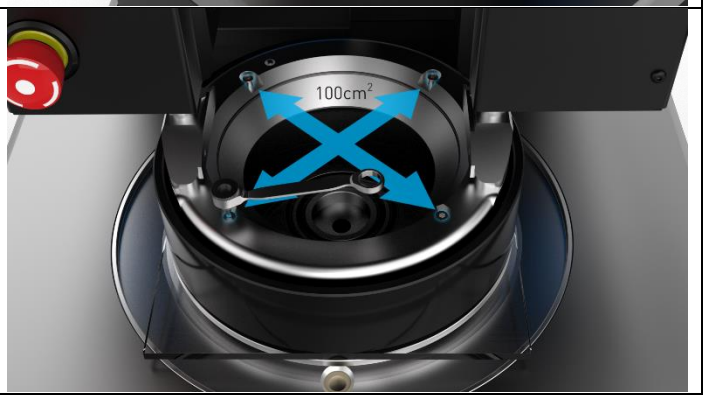
It is important to drain the system when leaving the instrument unused for long periods. As many standards use specified grades of water, it is recommended that the water should be drained and changed regularly to maintain the quality of the water being used.

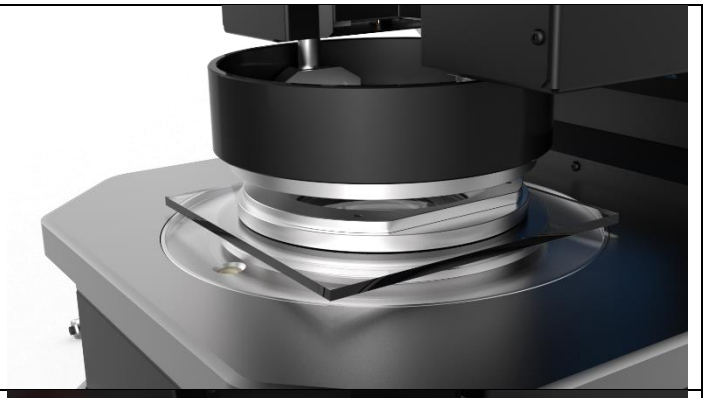
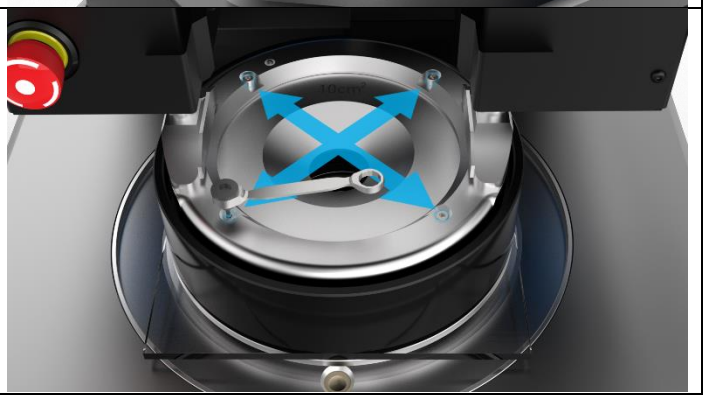
1. Ensure the wastewater drawer is inserted and empty.	

2. On the quick test menu, select water level.	
3. Select lower, this will empty the system water directly into the wastewater drawer.  Lower	
4. Remove the wastewater drawer and empty, ready for the next round of testing.	

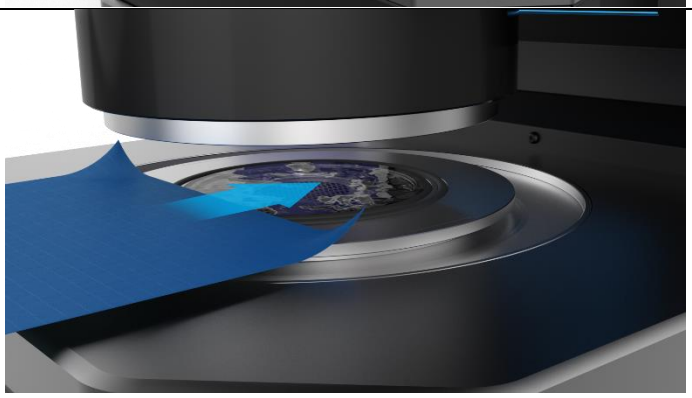
Changing Test Area

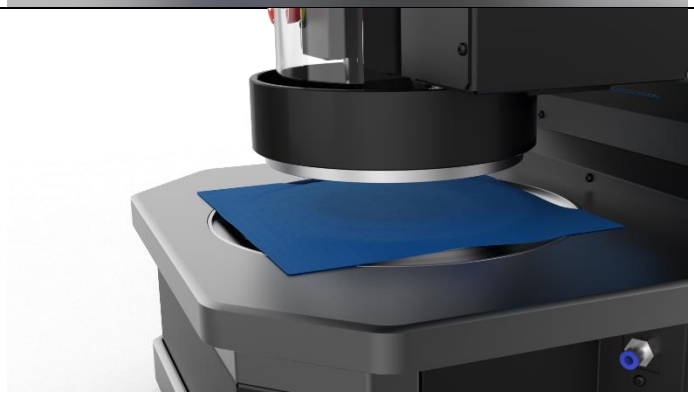
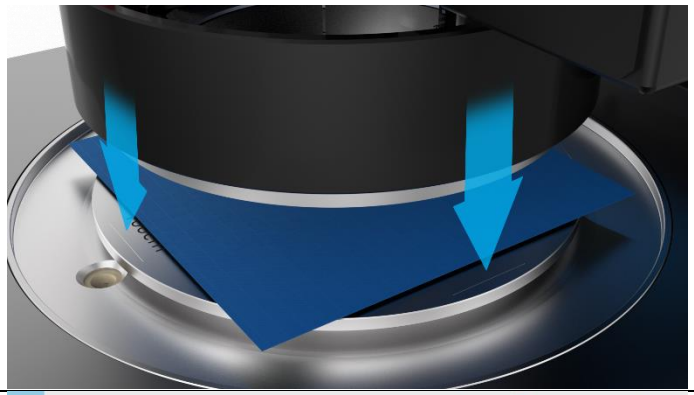
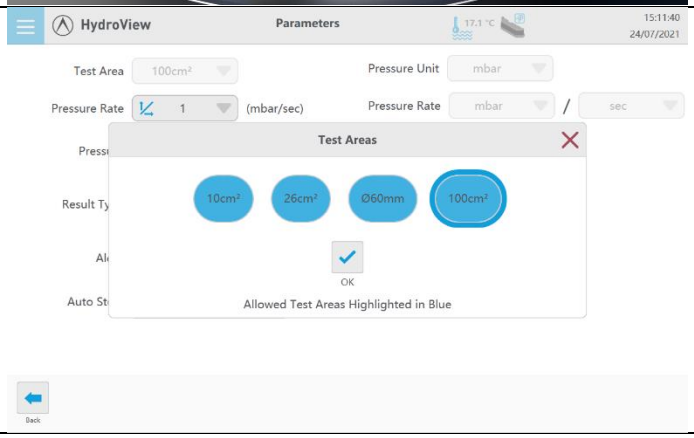
1. Empty the instrument of water prior to starting the test area change. See pages 38-39 for details. Ensure that the clamp and guard is in its up position with the splash guard removed.	

2. To remove the lower test area, lift the lower plate using the grove and pull directly up. This may require some force to overcome the o-ring that holds the plate in place. Any water be left behind in the lower test plate should be dried before fitting the new test plate.	
3. Store the lower plate in a safe place to avoid damaging the test area o-rings and the lower seal o-ring.	
4. Locate the replacement lower clamp, push down until the test area is level and secure. Turn the plate so that the test area size is shown at the front on the instrument.	
5. To remove the upper clamp head, first place the plastic specimen restraint over the lower head. Lower the manual guard, to give access to the top of the upper ring.	
6. You can then begin to remove each of the four mounting cap head screws. Loosen each of the screws in a sequence, do not remove them one by one. This will prevent the screw threads from being damaged and will also lower the upper clamp head down. Assistance maybe required to hold the upper clamp head from beneath while the screws are removed.	

7. Once the clamp is free, remove and place in a safe place so that the o-rings are not damaged. You will need to return the clamp guard to its upright position.	
8. The upper clamp should now be replaced with the new size to match the lower clamp ring. Assistance maybe required to hold the upper clamp head from beneath while the screws are removed. Ensure that all four screws are secured in place before commencing any testing.	

Loading a Specimen

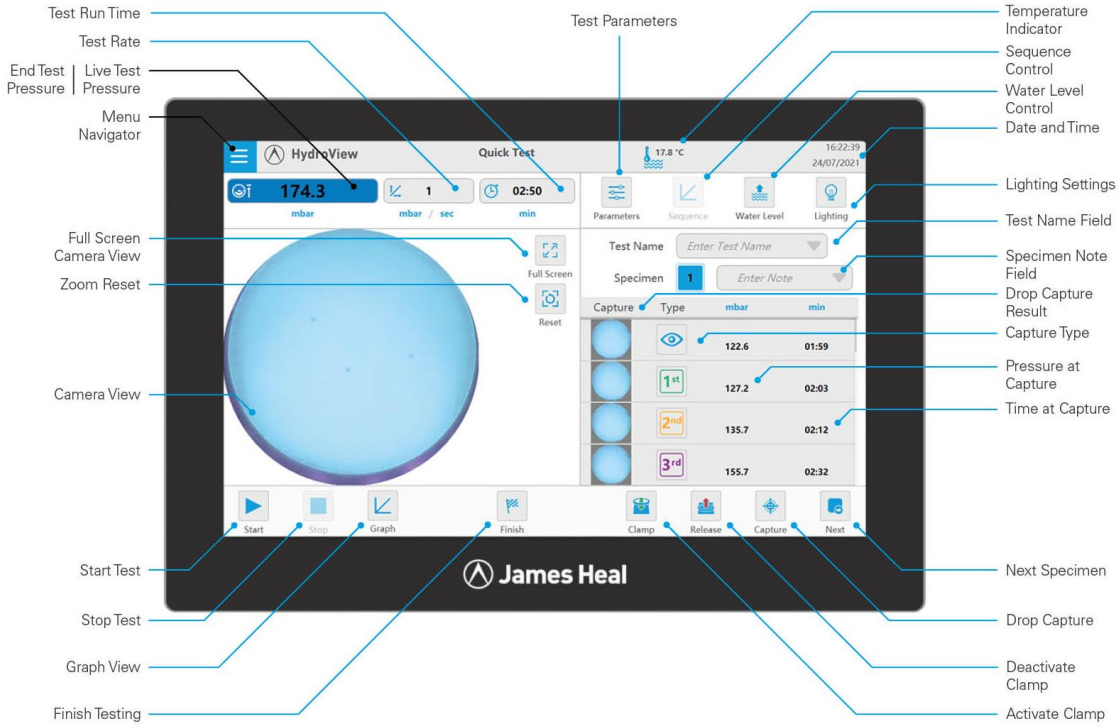
1. Before starting a test, ensure that the water level is set to the level as documented in the specific standard being used to test. The water wiper can be used to assist this. Ensure both the upper and lower O-ring seals and clamp surface are dry before inserting the sample.	
2. Carefully pull the sample to be tested across the surface of the test area. The sample should be inserted face down unless otherwise specified in the test standard being followed. It is important if you are testing specimens that are not air permeable that no air is trapped between the specimen and the water. This could impact the results of your test.	

	
3. When positioning the specimen make sure it is aligned centrally. For smaller specimens, the guide markers can help to align.	 
4. Before starting a test, select the correlating test area in the test parameters menu.  Parameters	

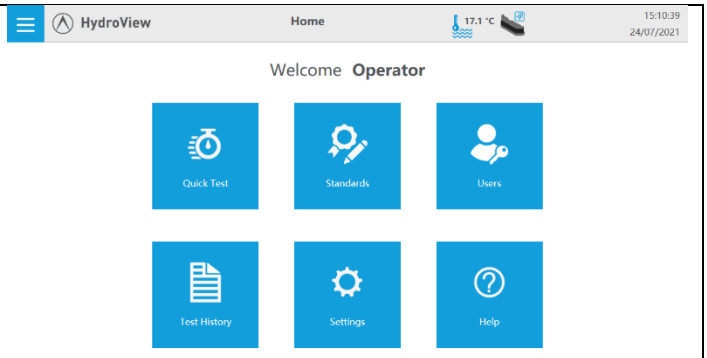
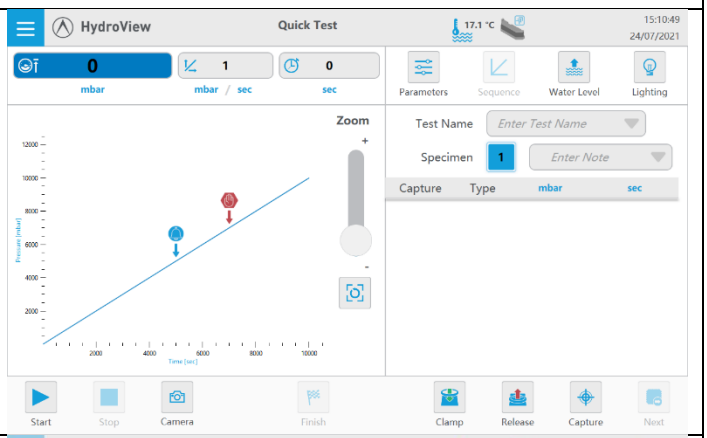
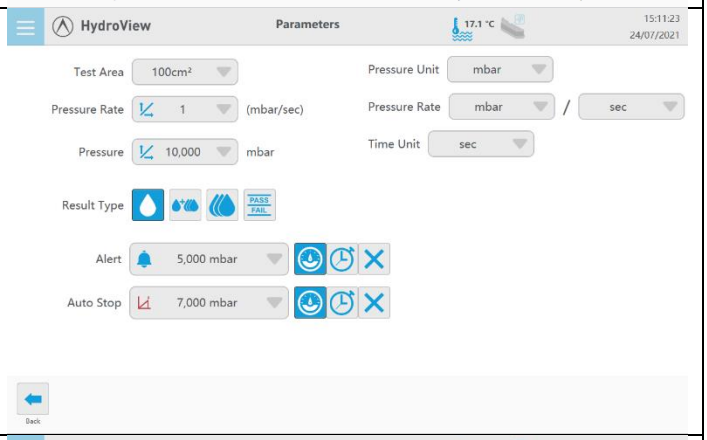
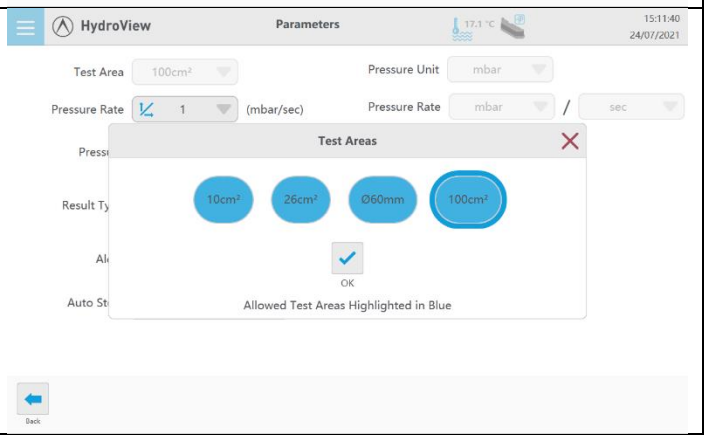
TEST SCREEN OVERVIEW

Test Screen – Graph View

Test Screen – Camera View



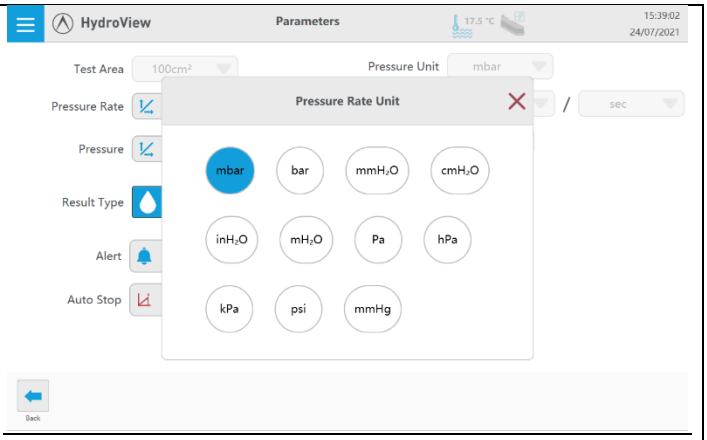
QUICK TEST PROCEDURE

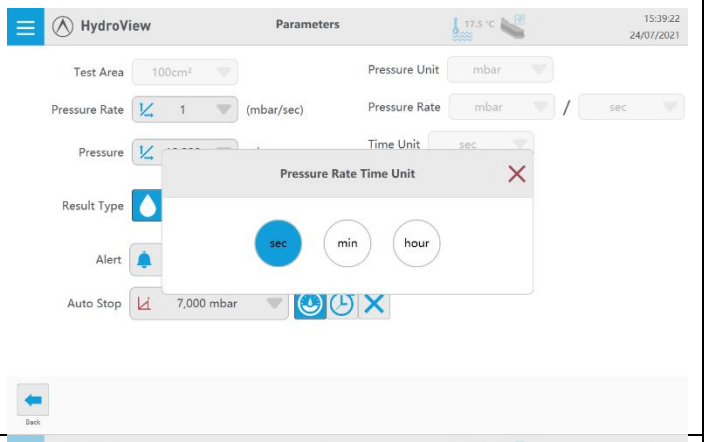
1. Once logged in select quick test. Set up the instrument before adjusting the system parameters prior to testing. See: Pages 35-38 Filling the instrument Pages 39-41 Changing the test area Pages 41-42 Loading a specimen	
2. To set the parameters of the test, select the parameters icon. 	
3. Adjustable parameters for testing: a. Select the test area to be used b. Set test pressure unit and rate unit c. Set the rate of rise d. Result type / Test type: *First drop, First + Third, Third or Pass/Fail* e. Audible Alert Value f. Auto Stop	
3.a. Select the correct test area installed in the HydroView. 	

3.b. Select the pressure unit the results will be displayed in.

Pressure Unit mbar

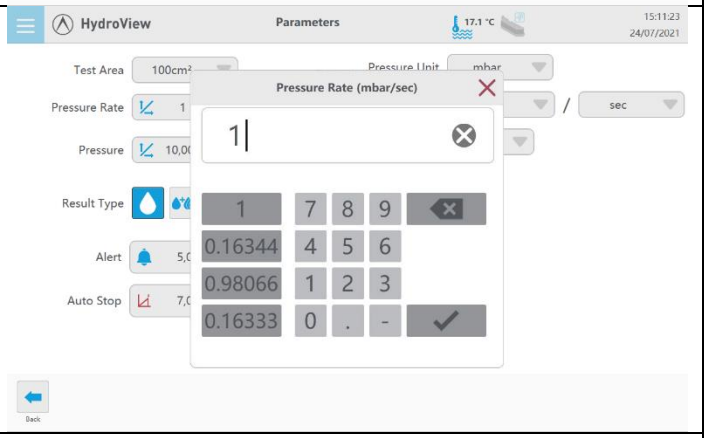
Pressure Rate mbar / sec





3.c. Define a value for the tests rate of rise.

Pressure Rate 1 (mbar/sec)



3.d. Define your test result.

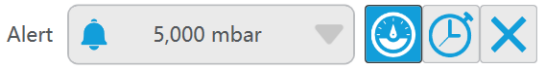
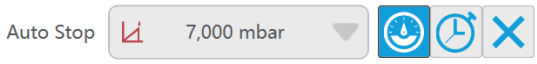
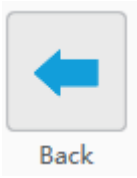
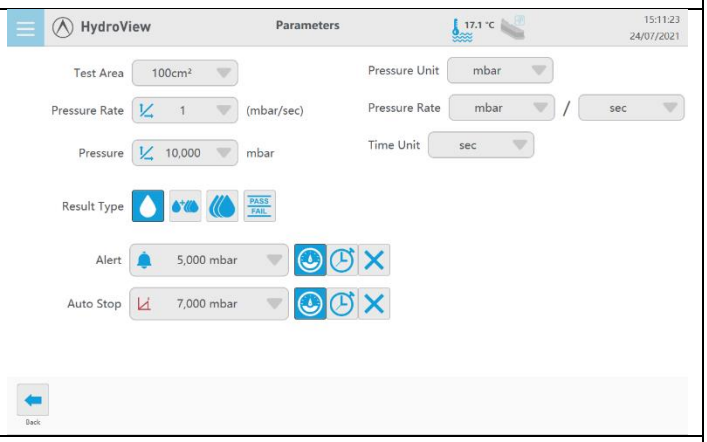
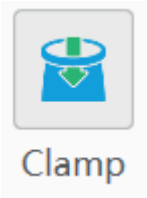
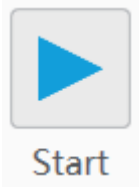
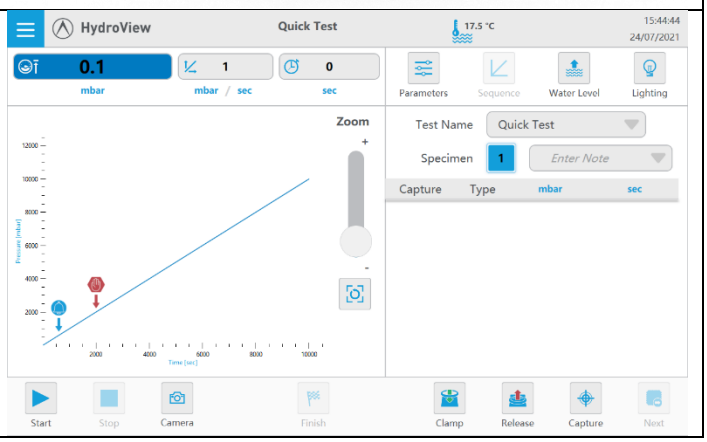
Result Type

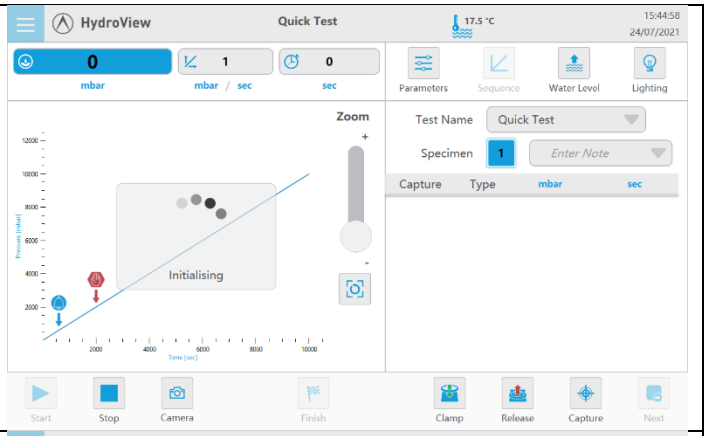
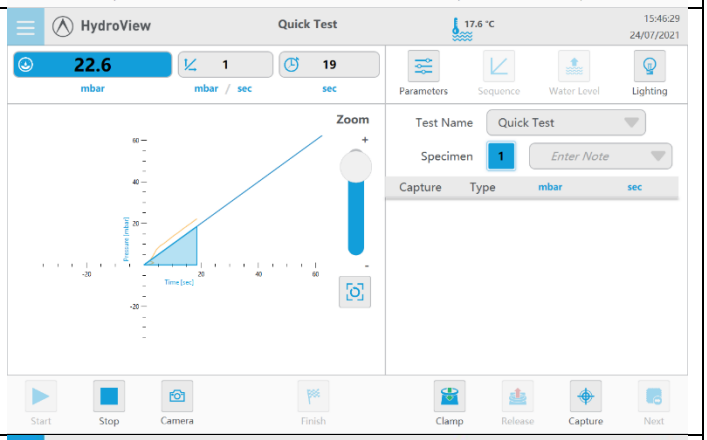
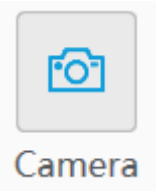
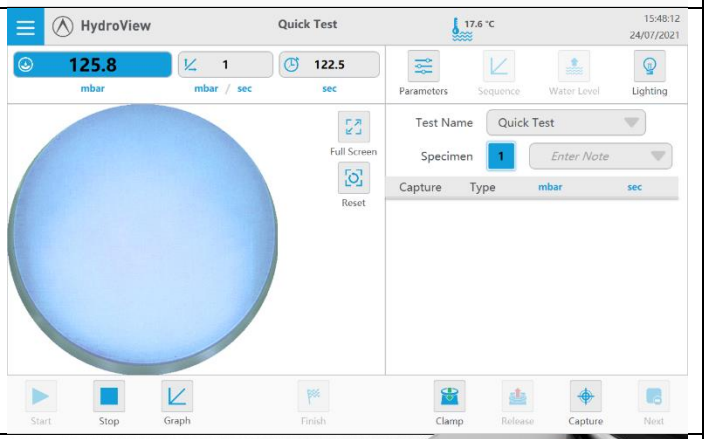
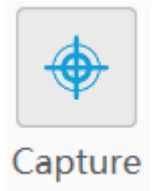
First Drop: Provides a mean result on the pressure or time at which the first drop is identified across tests specimen.

First and Third: Provides a mean result on the pressure or time at which the first drop and third drop is identified across test specimen.

Third: Provides a mean result on the pressure or time at which the third drop is identified across tests specimen.

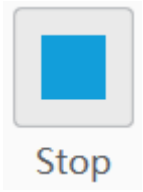
First Drop:	First and Third:
Third:	Pass / Fail:

Pass / Fail: If a drop is detected before a specified pressure or time is met the result will be marked as a failure. If the specimen meets or exceeds the pre-set values, the specimens result will be a pass.	
3.e. Define a value for the test alarm. You can specify it at a time or at a pressure. 	
3.f. Define a value for the auto stop, this will automatically stop the test at the set time or pressure. 	
3.g. Once all test parameters have been set, select back. The machine is now set for testing. 	
4. Before starting testing load a specimen (Pages 41-42) and ensure the guard clamp is in its lower position and the splash guard is inserted. Select clamp to lower the pneumatic. 	
5. Once the specimen is clamped start the test by pressing the start button. 	

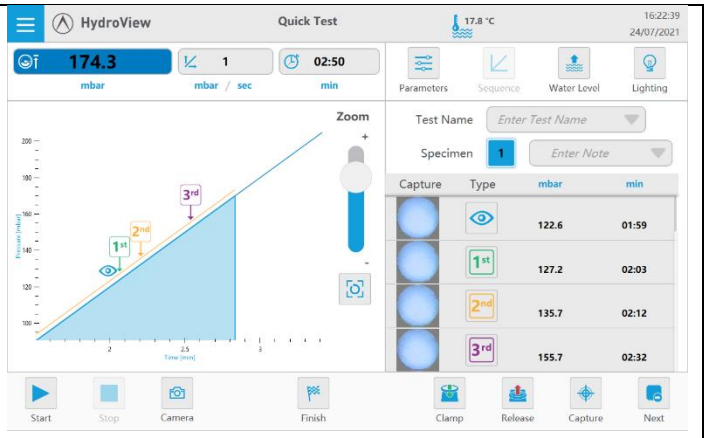
6. Once the test has started the instrument will briefly initialise before applying pressure to the specimen.	
7. Once initiated the pressure rise will be displayed on the graph, use the smart zoom to see the pressure rise. The actual pressure rise is displayed in the live test pressure field. 	
8. To view the specimen on the screen simply select the camera icon. Press the graph icon to return to the graph view. 	
9. To capture a drop use the capture button located on the screen or the manual hand switch.  *The manual hand switch will capture when releasing the button.*	

10. Drops identified will appear on the right-hand side of the screen on the results menu.

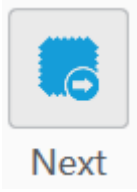
Once the end point has been identified select the stop icon.



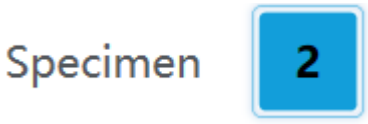
The test will only automatically stop if a burst or a sudden drop in pressure is detected.

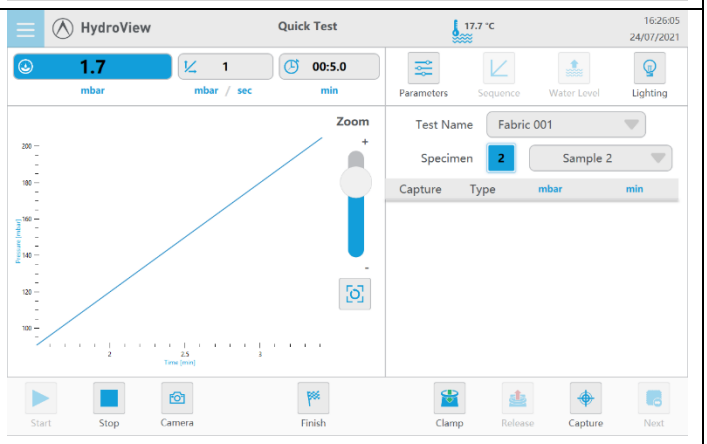


11. Once the test is complete select next to test the next specimen.

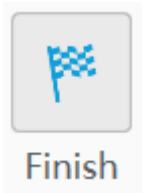


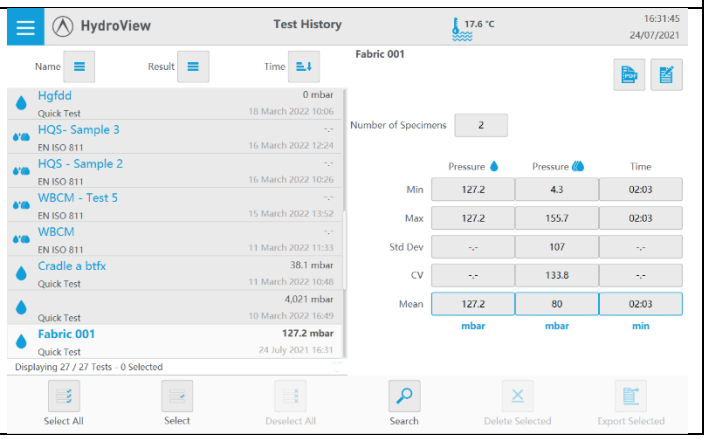
The specimen counter will keep track of the number of tests you have completed.





12. After completing the desired number of tests select finish. This will then collate the data from all the tests and save the results to be reviewed in the test history menu.

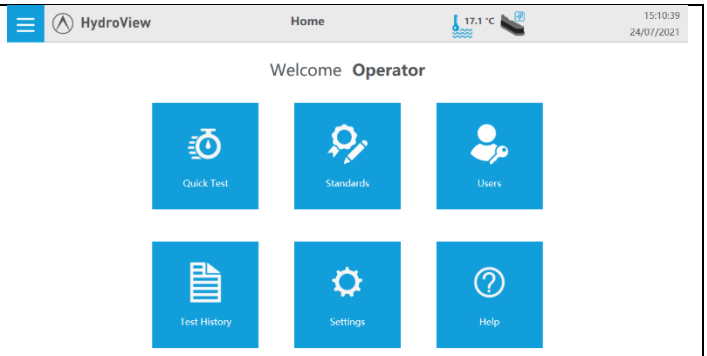




STANDARD TEST PROCEDURE

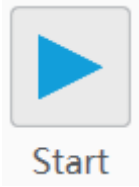
1. Once logged in select standard test.

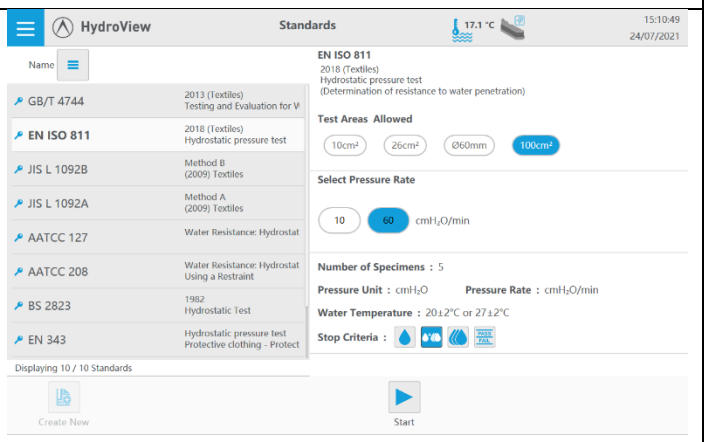
HydroView should be set up before adjusting the system parameters prior to testing. See:
Pages 35-38 Filling the instrument
Pages 39-41 Changing the test area
Pages 41-42 Loading a specimen



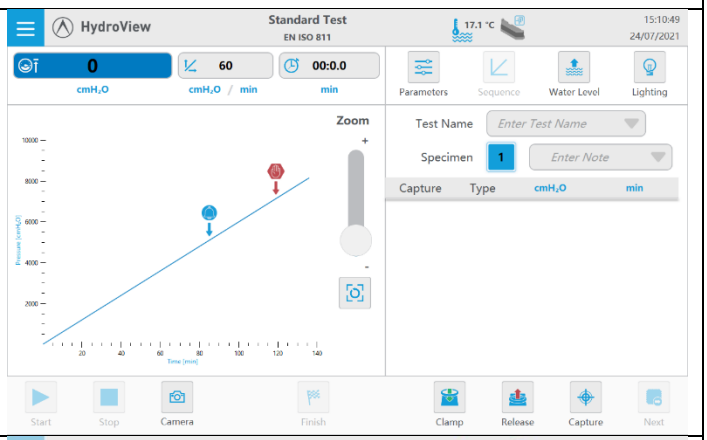
2. Select the pre-set standard from the list on the left. The specifics of the standard are displayed on the right hand side of the screen.

To use the standard select start in the navigation bar at the base of the screen.



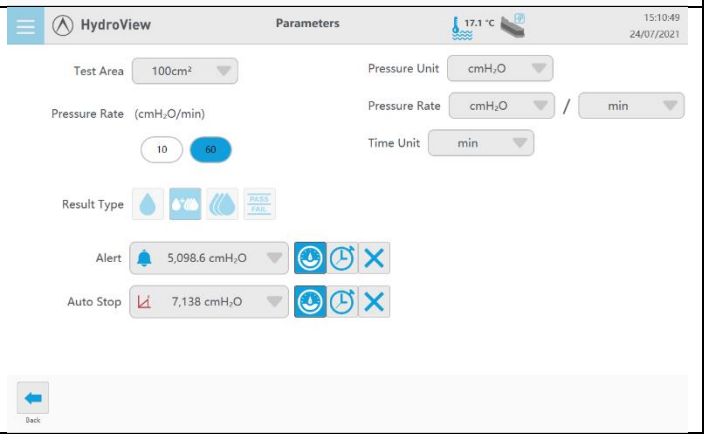


3. The default unit and test area will be selected for the standard. You can change the test area and unit used within the test from the parameters screen if you would like to deviate from the standard.



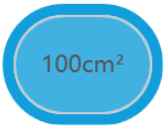
3. Adjustable parameters for testing:

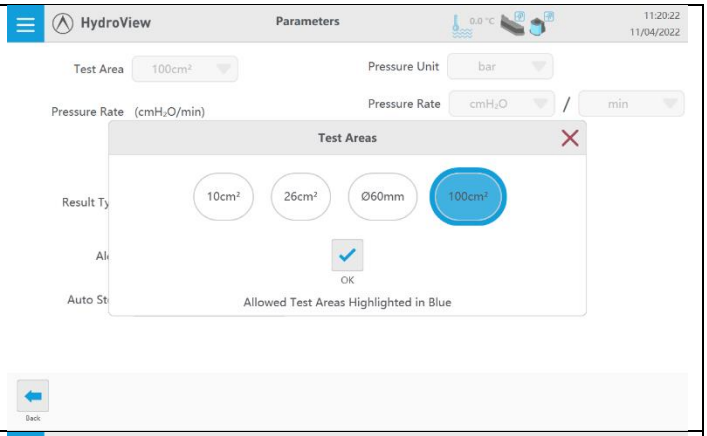
a. Select the test area you are using
b. Set test pressure unit and rate unit
c. Set your rate of rise
d. *Result type can't be changed in standard tests.*
e. Audible Alert Value
f. Auto Stop



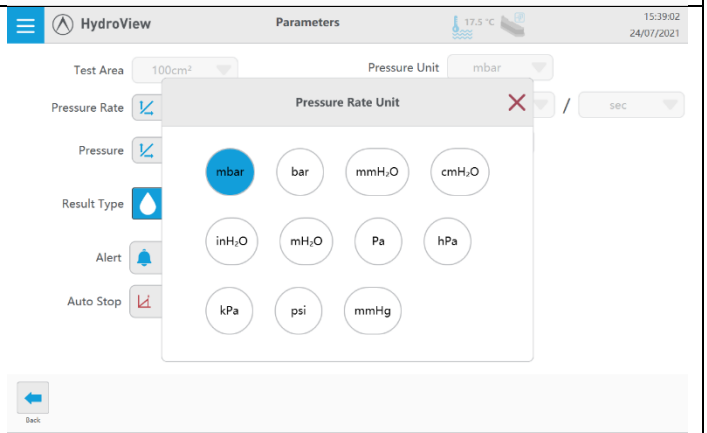
3.a. Select the correct test area installed in HydroView.

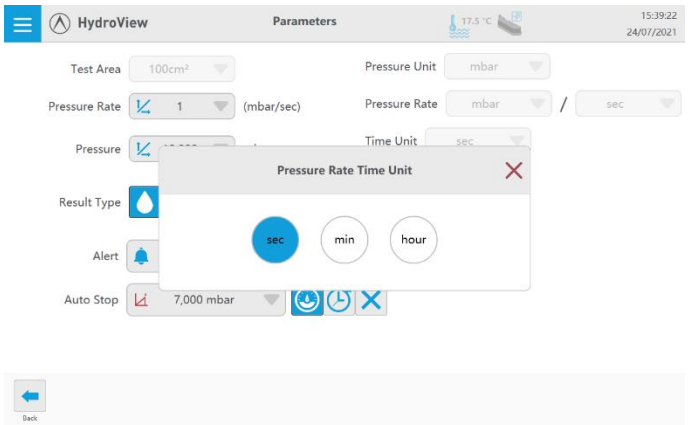
Only use the test area highlighted in blue. Other test areas do not conform to the standard selected.



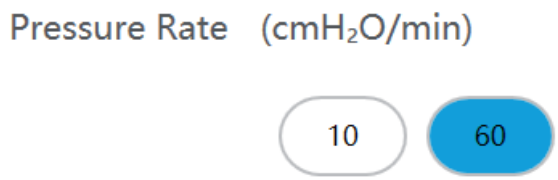


3.b. Select the pressure unit your test result will be displayed in.

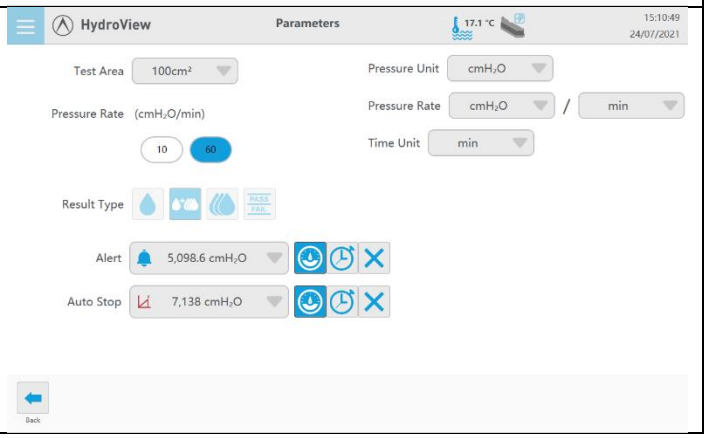




3.c. Define a value for the tests rate of rise.



The pressure rates applicable to the standard will be displayed, ensure the correct one is selected for test.



3.d. The test result will be automatically defined by the standards selected, this can't be changed.

If any deviations from standard are required, a copy of the standard would need to be created in the standards manager before changes can be made.

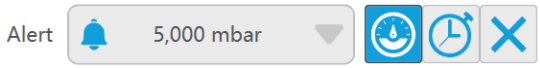
First Drop: 

First and Third: 

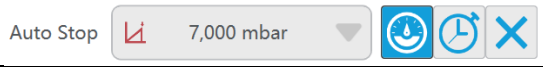
Third: 

Pass / Fail: 

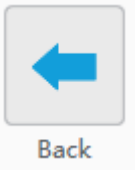
3.e. Define a value for the test alarm.
Time or pressure can be specified.

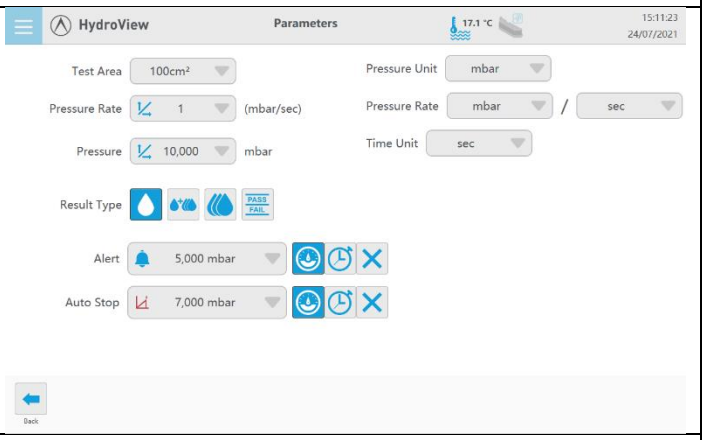


3.f. Define a value for the auto stop, this will automatically stop the test at the set time or pressure.

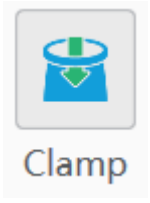


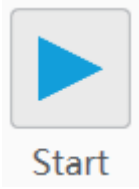
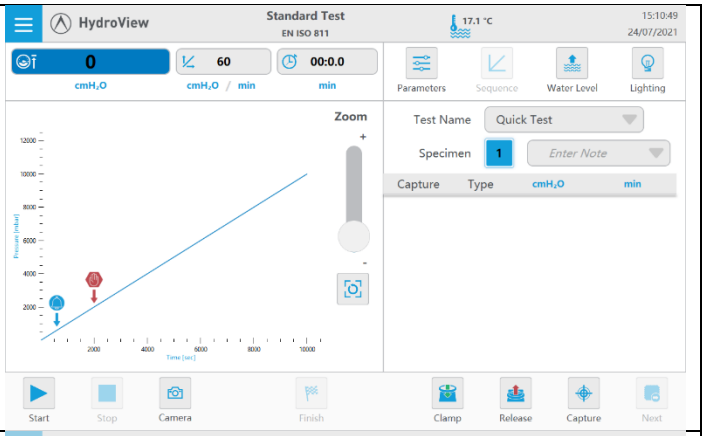
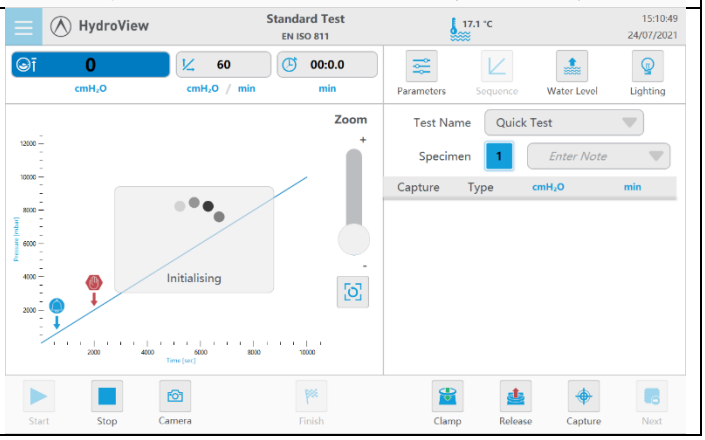
3.g. Once all test parameters have been set, select back. The machine is now set for testing.



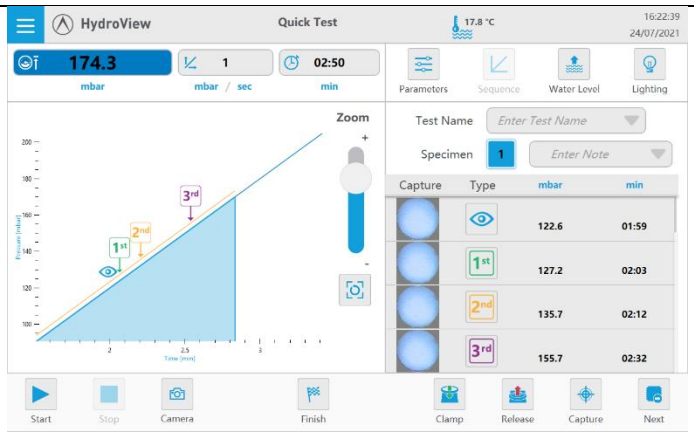
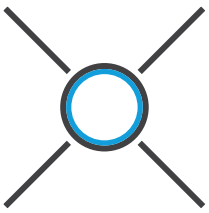
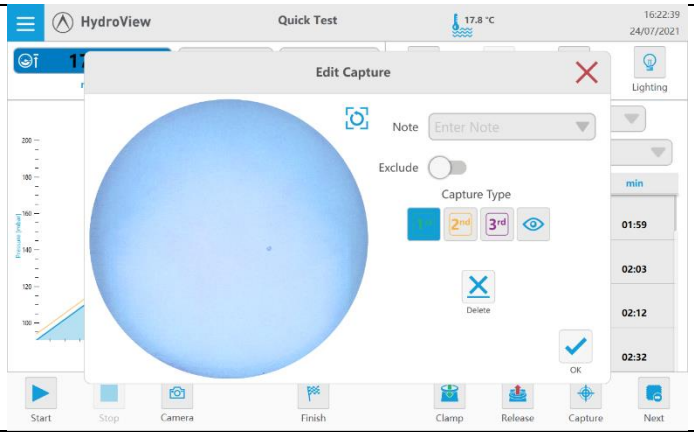


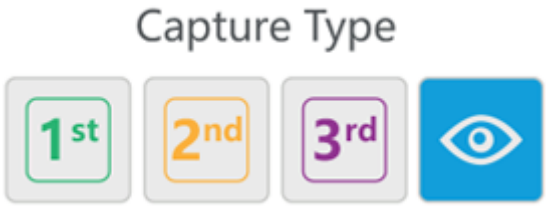
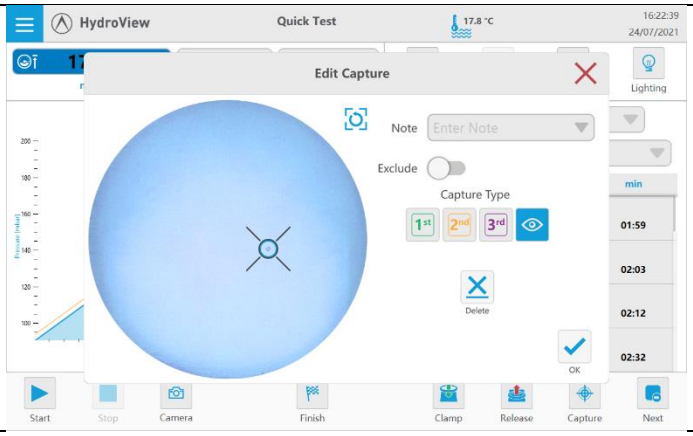
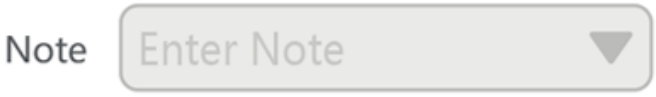
4. Before starting testing, load a specimen (pages 41-42) and ensure the guard clamp is in its lower position and the splash guard is inserted. Press clamp to lower the pneumatic.



5. Once the specimen is clamped start the test by pressing the start button. 	
6. Once the test has started it will briefly initialise before applying pressure to the specimen. Follow next steps from point 7 in section 10 - Quick Test Procedure.	

Drop Review + Highlight Tool

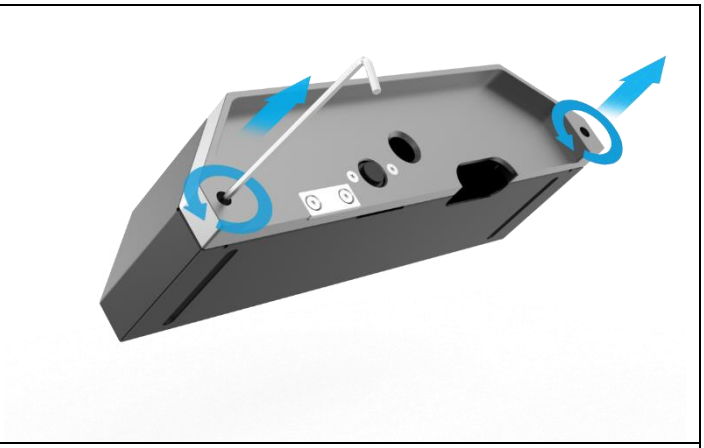
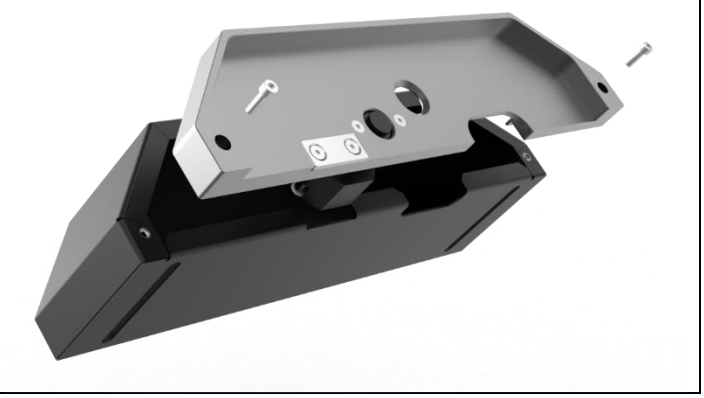
1. During a test, drops that are identified by users selecting capture or using the manual hand switch will be displayed on the right-hand side of the screen. When a drop is identified, it will automatically be identified as the first (1st) drop. To change this to an observation select the captured image or the icon in the right-hand column. 	
2. On the edit capture screen drops can be highlighted on the specimen. To do this identify the drop that should be highlight on the left hand specimen image and hold your finger on the area where you would like to mark the drop. 	

3. From the edit capture screen, the order in which the drops were captured can be changed or an observation assigned. Select one of the capture types from the list:  	
4. Notes can be added to specific results along with exclude the drop or observation. Administrator privileges, provided further editing of the results. For example, the capture can be deleted.. For general users, all captures will remain for review at the end of testing.	

CLEANING AND MAINTENANCE

Cleaning Wastewater Drawer

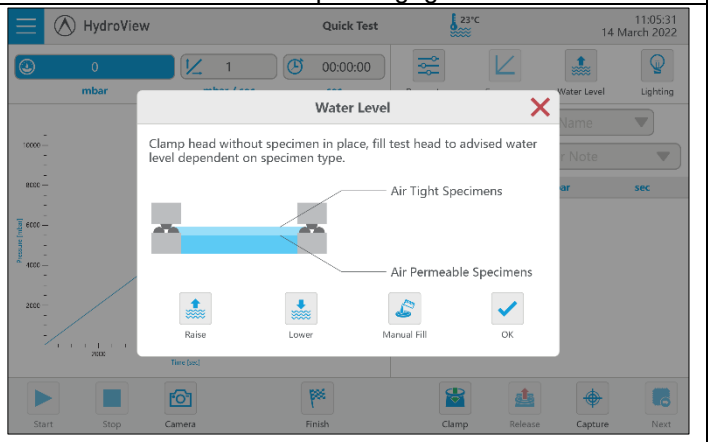
1. Drain the system as found in section (pages 38-39) and remove wastewater draw from the instrument.	
2. Pour any water from the wastewater drawer away.	

3. Remove the two M4 bolts from the lid of the wastewater drawer. This will provide access to the inside of the main body to clean any residue that may build up over time. Do not remove any of the other fixings.	
4. Once the main drawer body has been cleaned return the lid and fixings.	

General Cleaning

Do not use harsh abrasive cleaner on the instrument, use water and a nonabrasive cloth to remove any build-up of residue that may form over time.

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.
Screen not functioning	Water on screen	Ensure the touch screen is dry and free from water.
Test Stopped and cannot be started.	Emergency-stop activated	Ensure the emergency-stop (red button) hasn't been activated, by twisting the button. The touch screen should also indicate that the e-stop is engaged.
Water pump not filling instrument and making a loud noise.	Airlock in pump	

		Us the raise and lower buttons on the water level to free the air lock.
Test results not saving.	Device data capacity full.	See pages 30-31 to back up and delete old data.
System running slow	Device data capacity full.	Power off and restart the instrument. See pages 30-31 to back up and delete old data.

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.

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

Software

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

James Heal

EU DECLARATION of CONFORMITY

This declaration is issued under the sole responsibility of the manufacturer.

We **James Heal**

of **Richmond Works, Halifax, HX3 6EP, UK**

in accordance to the following directive(s):

2014/35/EU	**The Low Voltage Directive**
2014/30/EU	**The Electromagnetic Compatibility Directive**
2006/42/EC	**The Machinery Directive**
2011/65/EU	**The RoHS Directive**

hereby declare that:

Equipment:	**HydroView**
Models:	**2136**
Description:	**Hydrostatic Head Tester**
Serial Number:	**2136/22/1000 & subsequent**

is in conformity with the relevant Union harmonisation legislation, based on the conformity of the following documents:

Applied Harmonised Standards:

Ref. No	*Title*	*Edition/date*
EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements	2010+A1:2019
EN 61326-1	Electromagnetic Compatibility (EMC) equipment for measurement, control and laboratory use.	2013

I hereby declare that the above mentioned product is in conformity with the stated Standards.

Authorised Representative

John Page

Group Managing Director

PPT Group UK t/a James Heal

PPT GmbH & Co. KG

Basler Straße 65

79100 Freiburg

Deutschland

DATE: 23rd Feb 2022

Setting the Standard James H. Heal & Co. Ltd. Halifax England www.james-heal.co.uk

James Heal

UKCA DECLARATION OF CONFORMITY

This declaration is issued under the sole responsibility of the manufacturer.

We **James Heal**
of **Richmond Works, Halifax, HX3 6EP, UK**

hereby declare that:

Equipment:	**HydroView**
Model:	**2136**
Description:	**Hydrostatic Head Tester**
Serial Number:	**2136/21/1000 & subsequent**

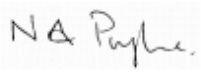
is in conformity with the relevant UK Statutory Instruments (and their amendments):

2008 No. 1597	**The Supply of Machinery (Safety) Regulations 2008**
2016 No. 1091	**The Electromagnetic Compatibility Regulations 2016**
2012 No. 3032	**The Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment Regulations 2012**

Relevant designated standards:

Ref. No	*Title*	*Edition/date*
BS EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements	2010+A1:2019
BS EN 61326-1	Electromagnetic Compatibility (EMC) Electrical equipment for measurement, control and laboratory use.	2013

AUTHORISED SIGNATORY



Neil Pryke

Innovation Director

DATE: 1st Nov 2021

Setting the Standard James H. Heal & Co. Ltd. Halifax England www.james-heal.co.uk