

# HYDRAJAWS<sup>®</sup>

## Bluetooth Digital

### Operating Instructions



**HYDRAJAWS<sup>®</sup>**  
**Bluetooth<sup>™</sup> DIGITAL**

## GENERAL DESCRIPTION

Hydrajaws revolutionary digital technology captures test results using a mobile phone or tablet device, allowing for instant visual graphs on-site for anchors, eyebolts and lifelines. Results are currently recorded manually using an analogue gauge; however with our unique digital system using Bluetooth it produces real time visual graphs for each test.

This revolutionary method has many advantages over the current industry technique which include:

- Results are visual and recorded with time, date and GPS location of each test.
- Graphs can be viewed with clients to explain why tests may not have met the required standard. (Not possible using analogue gauges)
- This system allows for more accountability for time spent on-site.
- Test evidence can be provided electronically from site to clients in a completed report, saving time on unnecessary paperwork. (Requires Wi-Fi or Mobile Network Signal)
- Compatible with Android or Apple based devices such as smartphone/Tablet.



**It is essential that the operating instructions are read before a test is carried out for the first time and that the system is fully tested before going out on-site, to get accustom to the equipment. Always keep these operating instructions together with the tester. Ensure that the operating instructions are with the tester when it is given to other persons.**



**Please avoid exposing equipment to extremes of temperature where possible.**



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All screenshots and operating methods in this manual may vary from one device to another. For more information, please consult the operating manual of your specific device.

## HYDRAJAWS BLUETOOTH DIGITAL KIT CONTENTS



1. **Box**  
Retain this for return of unit for annual calibration.
2. **Gauge**  
with appropriate face sticker and MAN number sticker.
3. **USB Stick**  
with Android installation package and PDF of operational manual.
4. **Check sheet**
5. **Calibration Certificate**
6. **Operating Instructions**
7. **Return FedEx packaging**  
with Hydrajaws label and printed address sticker.
8. **Displacement plate**  
(Optional)



### DEVICE REQUIREMENTS

Before purchasing a new device, please check it meets ALL specifications required.



#### Android Devices

**System:** Android 4.4 OS onwards compatible mobile device with GPS

**Bluetooth:** Low Energy, Smart or Bluetooth 4.0+.

For installation of software a USB connection, a data enabled SIM with email function or a connection to the Google Play Store is required.

For emailing reports, a data enabled SIM with email function is required.



#### Apple Devices

Any Apple ipod, iphone or ipad with operating system of iOS 7 onwards,

**Bluetooth:** Low Energy, Smart or Bluetooth 4.0+,

GPS and access to the Apple app store.

For emailing reports, a data enabled SIM with email function is required.

## 1A. THE ANDROID DEVICE INTERFACE



The Hydrajaws Bluetooth Digital App appearance will vary slightly from one device to another but the operating interface will function the same way.



### The Android device interface

Bluetooth Connect button

Timer

Load applied

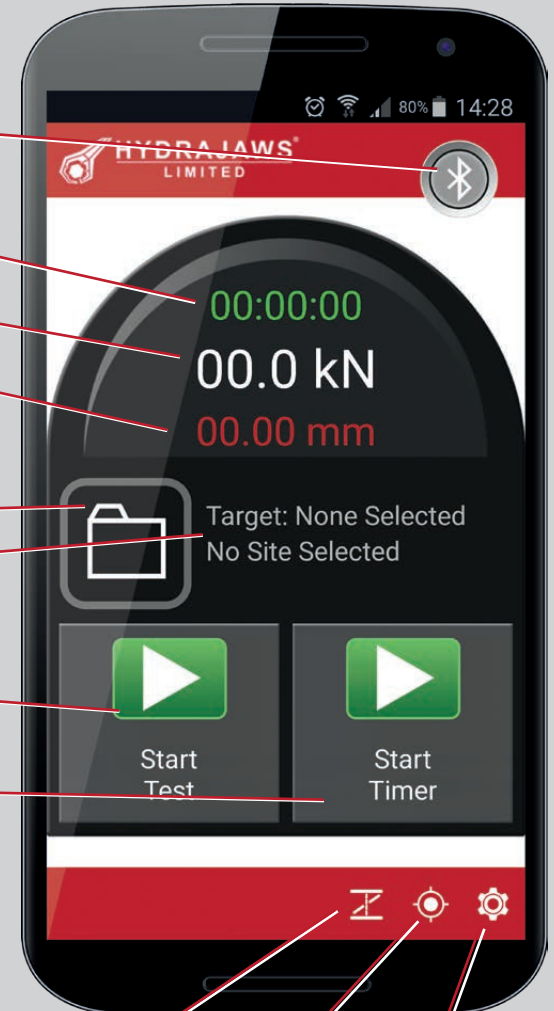
Displacement

Site folders Button

Current target, site and test name

Test button (starts recording)

Timer button



Zero Load and/or Displacement

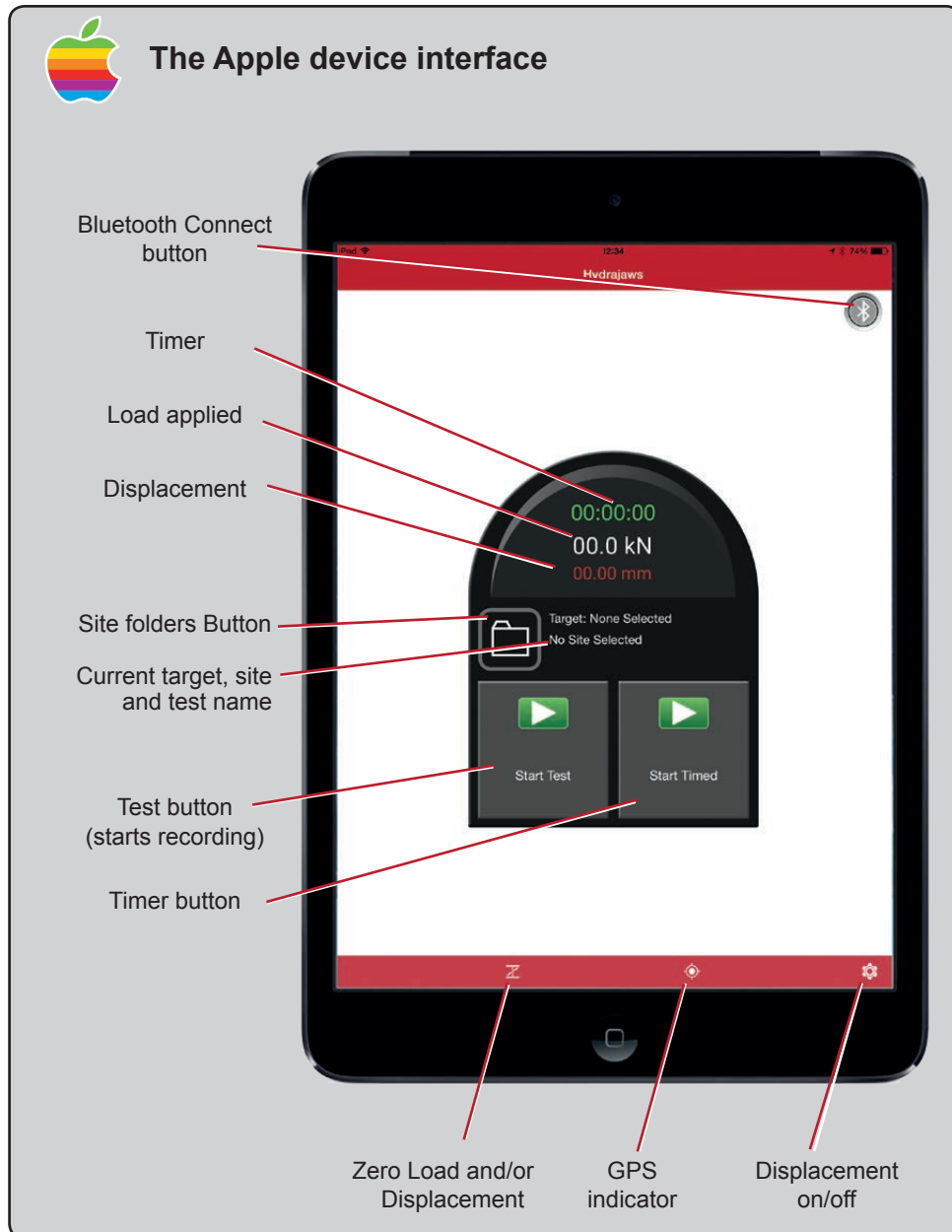
GPS indicator

Displacement on/off

## 1B. THE APPLE INTERFACE



The Hydrajaws Bluetooth Digital App appearance will vary slightly from one Apple device to another but the operating interface will function the same way.



## 2A. APP INSTALLATION ON APPLE DEVICES



To install the app on your Apple device go to the Apple App Store usually located on your home screen.

In the App Store search for 'Hydrajaws Bluetooth Digital'.



This will bring up the Hydrajaws App.



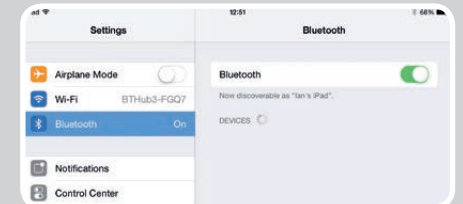
Select 'GET' and then 'Install App'.

The App is free and so payment will not be needed but you may have to sign in to your Apple account.

### 2A.1 ENABLE GPS AND BLUETOOTH ON THE APPLE DEVICE

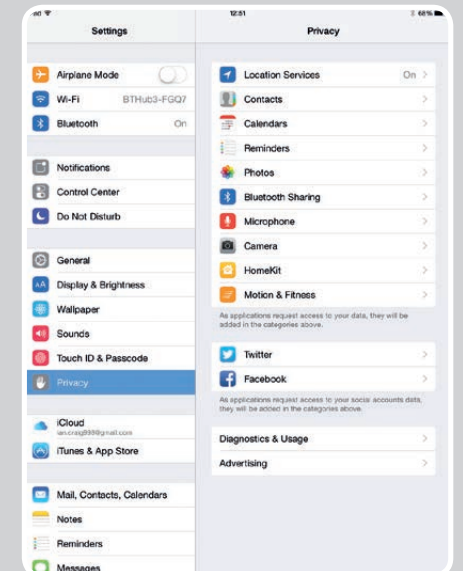
To enable Bluetooth:

Go to Settings and switch Bluetooth to on.



To allow GPS:

Go to Settings then Privacy:  
Switch Location services on.



*This may vary from one device to another. Please consult your device's operating manual.*



## 2B. APP INSTALLATION ON ANDROID DEVICES



The Hydrajaws Bluetooth Digital Application can be loaded onto an Android device by one of the following ways:

### 2B.2 Using the USB stick directly

### 2B.3 Emailing it from a PC

### 2B.4 Downloading from the Google Play store or the Hydrajaws website

Installation screens and methods may vary. For more information, please consult the operating manual of your device. To receive information on upgrades please use the preferred method of downloading from Google Play. If not using Google Play then please check the website for updated versions.

### 2B.1 PREPARE DEVICE FOR INSTALLATION

If not installing the Hydrajaws app from Google Play, the Android device must be set up to allow installation of apps from sources other than Google Play Store.

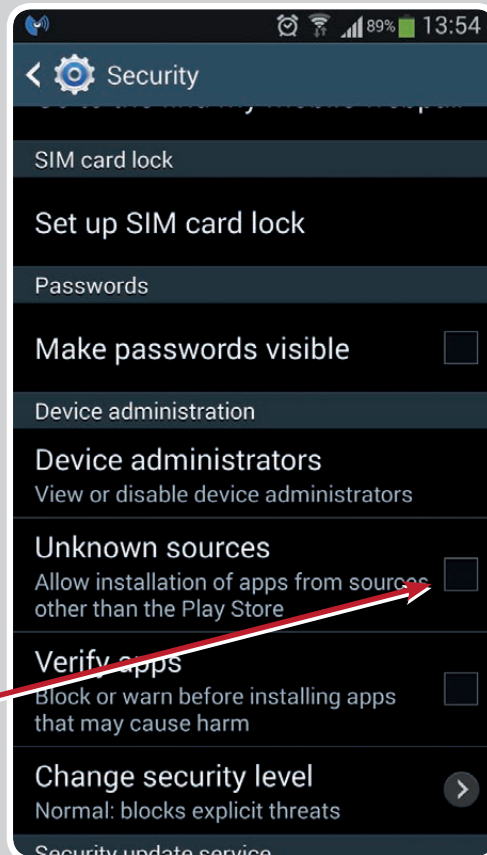
Open settings.

Select Security

Enable 'Unknown Sources'

Press OK

Exit settings.



When installation is complete - disable 'Unknown Sources' again.

### 2B.2 INSTALLATION USING THE USB STICK DIRECTLY

Connect the USB stick to the Android device.

Navigate to the USB folder and find the latest application file:

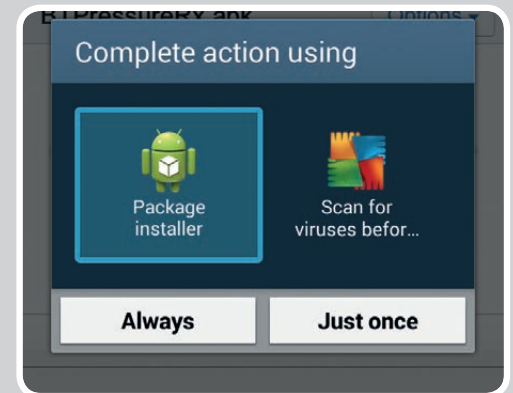
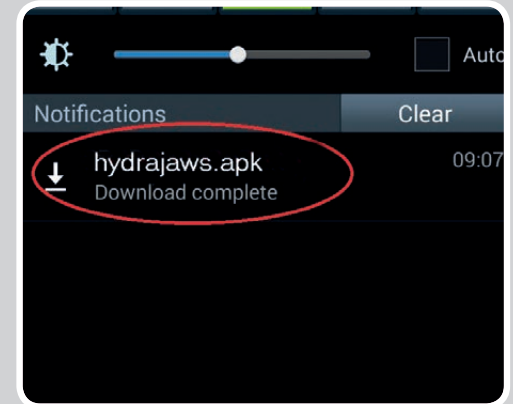
hydrajaws.apk

Select install

Decline any Google messages (if asked)

Press Done

Disable 'Unknown Sources' in settings.



## 2B.3 INSTALLATION USING EMAIL FROM A PC

Insert the USB stick provided into your PC

Right click on the file named 'hydrajaws.apk' and click send to Mail Recipient

Email the file to an email address accessible on your Android mobile device

Open the email sent to your Android device

Open attachments

Select Save

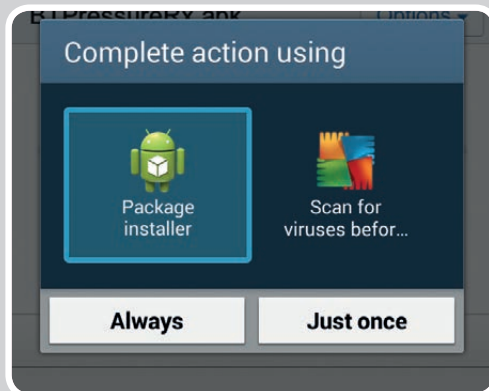
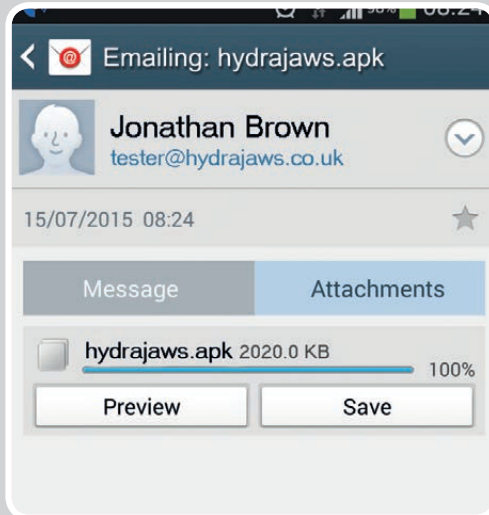
Swipe down to reveal the download file

Select install

Decline any Google messages (if asked)

Press Done

Disable 'Unknown Sources' in settings.



## 2B.4 DOWNLOAD FROM THE HYDRAJAWS SITE

Go to the Hydrazaws website:

[www.hydradjaws.co.uk/Products/NEW-Bluetooth-Digital-System](http://www.hydradjaws.co.uk/Products/NEW-Bluetooth-Digital-System)

Right click on the app download file apk.  
'hydradjaws.apk'

Select Save

(If saved to PC then email to the Android device and see section 2.2B.)

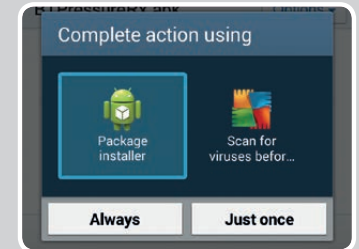
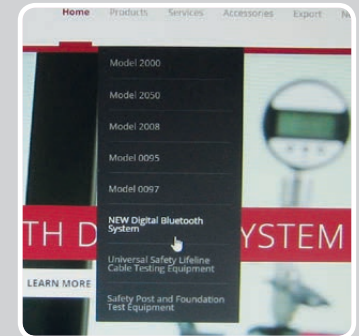
Navigate to the saved file.

Select install

Decline any Google messages (if asked)

Press Done

Disable 'Unknown Sources' in settings.



## 2B.4 DOWNLOAD FROM THE GOOGLE PLAY STORE

Go to the Google Play Store on Android device.

Search for : Hydrazaws Bluetooth Digital.

Install App.

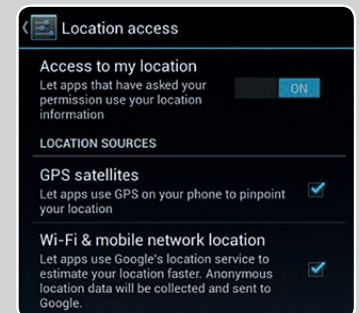


## 2B.5 ENABLE GPS AND BLUETOOTH ON THE ANDROID DEVICE

For operation of the GPS ensure that your device has enabled GPS.

This will usually be under Settings and Location access. Depending on your device and version of the Android OS, make sure all options such as Location, Location services, and Location reporting are enabled.

If Bluetooth is switched off it will be requested when starting the app (see Pair up with Gauge by Bluetooth).



### 3. PREPARATION FOR TESTING

#### 3.1 ACTIVATE THE GAUGE'S BLUETOOTH

Turn on the gauge then turn on its Bluetooth.

*Bluetooth LED will flash quickly when searching for a device*

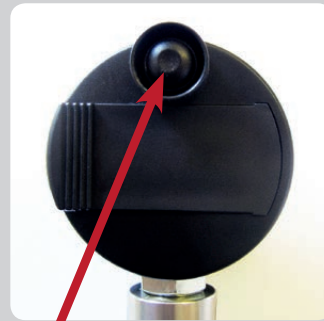
- You have 1 minute before the LED will flash slowly or constant when connected
- Turn gauge Bluetooth feature off and back on again and repeat process if necessary



*It is advised that the 9v battery is not removed unless absolutely necessary.*



TURN ON GAUGE



TURN ON BLUETOOTH

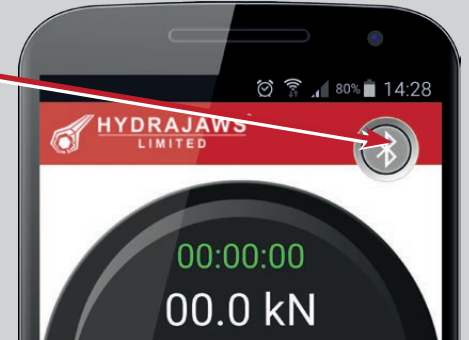
#### 3.2 OPEN THE APP

Find the Hydrajaws Bluetooth Digital Launch Icon and click it to open the app.



#### 3.2 PAIR UP WITH GAUGE BY BLUETOOTH

Press the Bluetooth Connect button.



If Bluetooth is switched off, permission will be requested.



Android: Select 'Yes' (Bluetooth will be turned on).



Apple: Go to Settings and turn Bluetooth on.

##### Bluetooth permission request

Application is requesting permission to turn on Bluetooth. Allow?

NO YES

A Bluetooth device list will appear with a list of devices in range (approx. 10 to 20 metres).

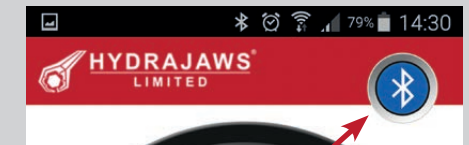
Select the device matching the Gauge reference number. This will be the number labelled on the bottom of the gauge and usually begins with 'MAN'.

##### Select Device

MAN 0042

CANCEL

The Bluetooth icon will change colour to blue indicating the pairing is successful.



## 4. TEST PROCEDURE

### 4.1 SETTING UP THE TEST

Ensure the gauge is connected to the app by Bluetooth. The Bluetooth symbol will be blue to indicate this (see 'Preparation for testing' section).

Before starting a test a site folder will need to be selected. This Site will contain details such as client name, site address, fixing details, etc. and all of the test results and details. This will be used to generate the report at the end of the testing.

Press the Site folder button.  
A list of any previous sites will be displayed. If testing under an existing site then select the required one.



**PLEASE NOTE:** Testing will not begin unless a site has been selected.

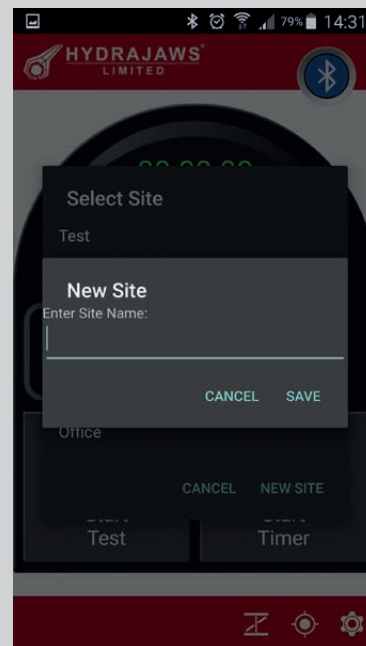
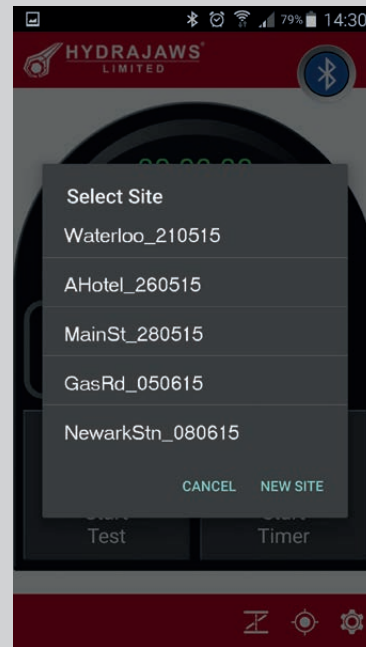
If working on a new site select New Site and enter a name when prompted. This will be a reference name of up to 16 characters.

*It is recommended that a Site name contains a good reference to the job (eg. location & date or ref number).  
For example: **Waterloo\_120515**.*

Press SAVE. This new site will now appear in the site list.



**Due to the limitations of mobile phones and tablets it is recommended that no more than 50 tests are put into a single site folder.**



Press Site folder button to display the list of sites.

Now select the required site to display its list of tests.

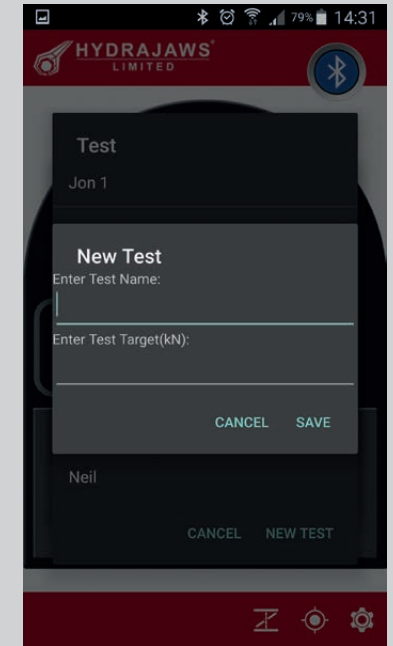
Select 'New Test'.

Enter a test name (up to 16 characters) when prompted.

*It is recommended that a Test name contains a good reference to the test (eg. test number, location ref etc.).  
For example: **Test1\_Floor5**.*

Enter a target load in kN.

*Note: Tests can be performed without a target load but the result will not feature a FAIL/PASS result.*



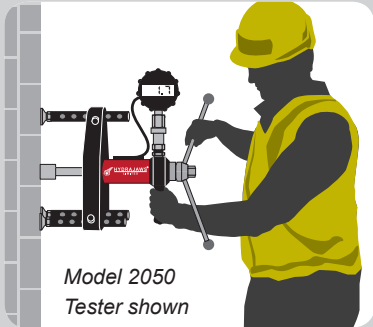
You will now return to the home screen with the site name and test name filled in.





## 4.2 CARRYING OUT A TEST

1. To start test recording press the START TEST button. This will change to a STOP TEST button to indicate recording has started.
2. Wind fixing up to the desired holding point.



3. To time the test, press START TIMER.

This will change to STOP TIMER and background will change to red. The green timer will start.

Keep the fixing/cable held for the desired holding time.

*Note: Tests can be performed without using the timer.*

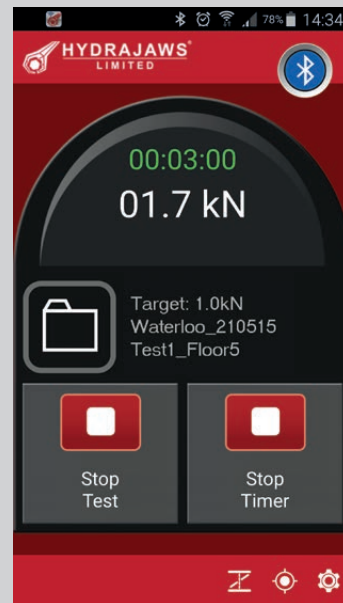
4. When the desired holding time has elapsed, press STOP TIMER.

If further timings are required, repeat steps 2 to 4.

**PLEASE NOTE: The PASS/FAIL test will only be applied to the last timed section.**

5. When all testing completed release the load (wind down to zero) and then press STOP TEST.

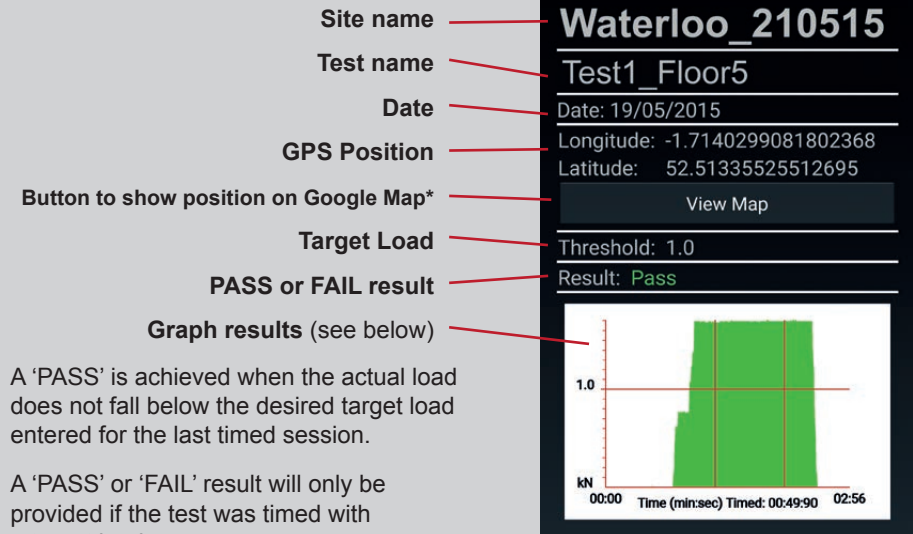
The screen will now change to the test review screen.



*It is advised that the gauge and Bluetooth are switched off after every test to preserve battery life.*

## 4.3 REVIEWING A TEST

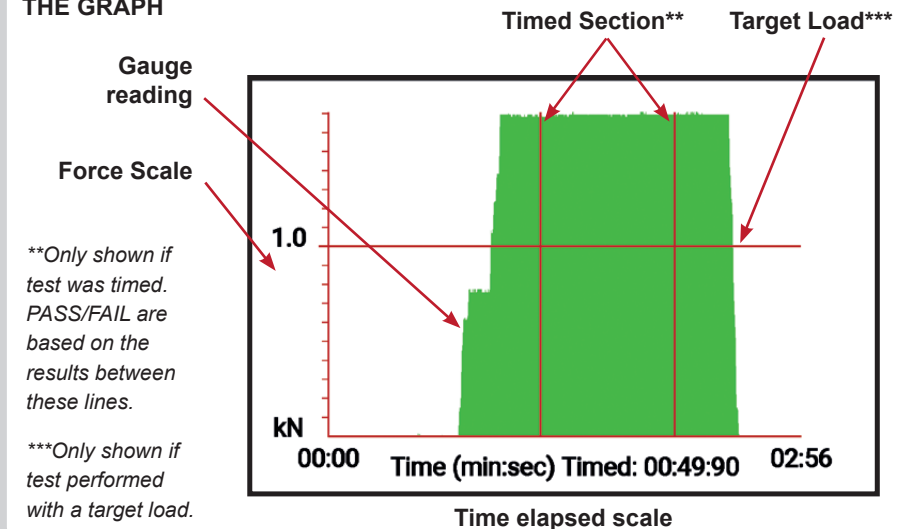
After completing a test the screen will display the results:



A 'PASS' is achieved when the actual load does not fall below the desired target load entered for the last timed session.

A 'PASS' or 'FAIL' result will only be provided if the test was timed with a target load.

### THE GRAPH



This test will now be saved under the site name selected.

Pressing return will display the home screen again ready for further tests.

*\*If Google Map enabled on device. Other mapping functions are available.*

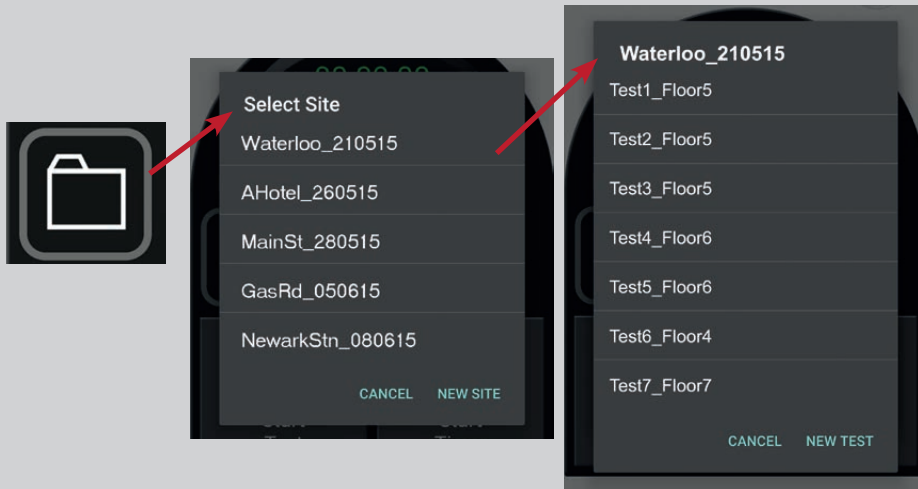
## 5. CREATING A REPORT

### 5.1 REVIEWING A REPORT AND ITS TESTS

Pressing the site folder button will bring up a list of saved sites.

Pressing once on a site will bring up a list of tests carried out under that site name.

Pressing a test will take you to the test review screen (see section 4.3).

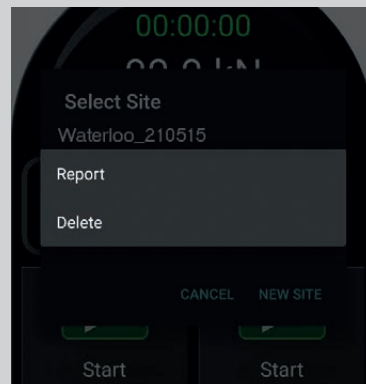


To edit or view a site report, press and hold its name until a menu appears. Select 'Report'. This will take you to the editing report screen (see section 5.2).

You will also be given the option to delete the site.

*Note: A site cannot be deleted while it contains test data. These have to be removed first.*

Be careful not to accidentally delete site data as this cannot be retrieved.



### 5.2 COMPLETING A REPORT

The editing report screen has all the selected site details, test results, comments and information ready to create a full report.

Some details are automatically filled in (eg. Date) and some will need manually filling-in depending on requirements (eg. comments box).

The image shows two screenshots of the mobile application. The left screenshot shows the 'Client Details' screen with fields for Project(Site Name), Office, Reference Number, Date (19/05/2015), Client, Contact, Address, Telephone, and Email. The right screenshot shows the 'Fixings Details' screen with fields for Fixing 1, Manufacturer, Size, Type, Description, Fixing, Material/Substrate, Application, and Embedment. Below these is the 'Testing Details' screen with fields for Testing Company, Testing Personnel, Test Equipment Used, Test Conclusions, and Test Additional Info. At the bottom is the 'Report Graphs' section showing a graph and metadata: Date: 19/05/2015, Time: 12:47, Test ID: 1, GPS: -1.7139358.

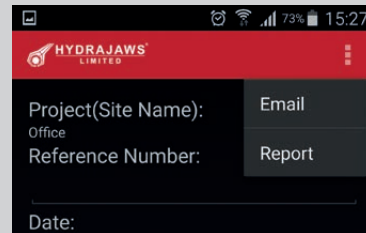
## 5.3 GENERATING OR SENDING A REPORT

When you are satisfied all site details required have been filled in you can email or generate a PDF.



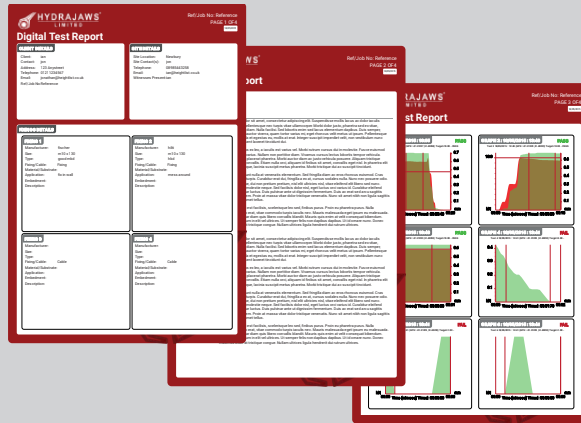
Press the menu icon on the top right and select Email or Report.

*Note: On some devices this menu icon may be replaced by the default menu button on the device.*



### Report

Will generate a PDF of the site report and request where to save it. This saved PDF can be stored, attached to an email or printed as a standard PDF.



Press the Preview button on the top right of the screen to go to a PDF preview of the report.

From this report screen press the email button (top right) to email the report.



### Email

Selecting 'Email' will open up the email client on your device and attach a PDF of the report to a blank message.

Any photos or documents attached to the tests can now be also added to the email.

*It is recommended that a PDF is generated or emailed and saved onto a separate device as a backup in case the device is stolen or reset - losing all data.*

## 6. SETTING UP THE DISPLACEMENT SENSOR (OPTIONAL)

### 6.1 ATTACHING THE UNIT TO THE MODEL 2000 OR MODEL 2050 TESTER

1. Install the sensor plate to the tester body and secure via the four M4 dome head screws with a 2.5mm allen key (**fig 1**).
2. Connect the lead to the gauge. Turn the plug to the right to click into place (**fig 2 & 3**).
3. Reverse sequence to remove.

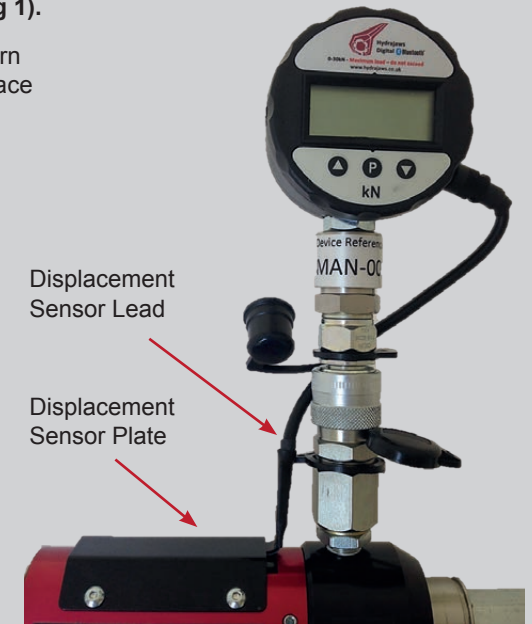


Fig 1



Fig 2



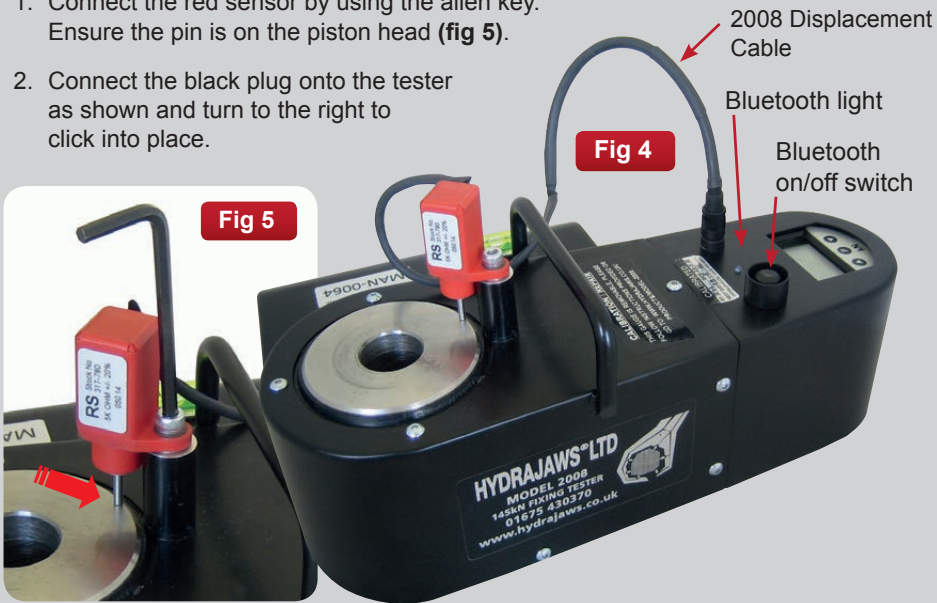
Fig 3



## 6.2 ATTACHING THE CABLE TO THE MODEL 2008 TESTER

A 2008 Displacement cable attaches to the Model 2008 Tester body (fig 4).

1. Connect the red sensor by using the allen key. Ensure the pin is on the piston head (fig 5).
2. Connect the black plug onto the tester as shown and turn to the right to click into place.



## 6.3 ACTIVATING THE DISPLACEMENT SENSOR

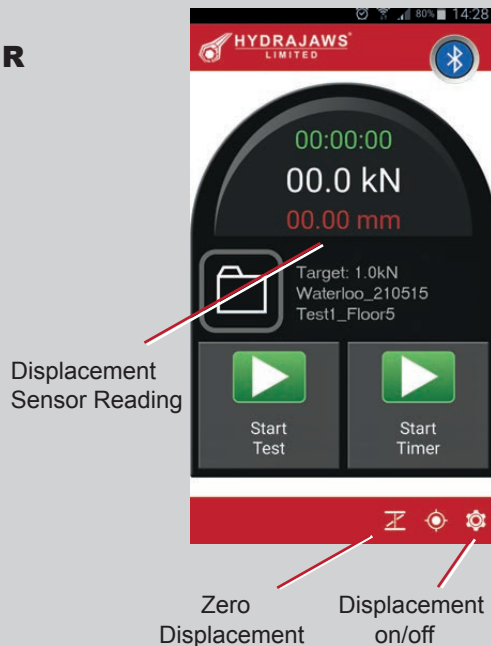
By default, the Displacement Sensor is switched ON.

To deactivate, press the Displacement on/off icon on the bottom right of the screen to switch OFF.

The Displacement Sensor reading appears in red below the load reading.

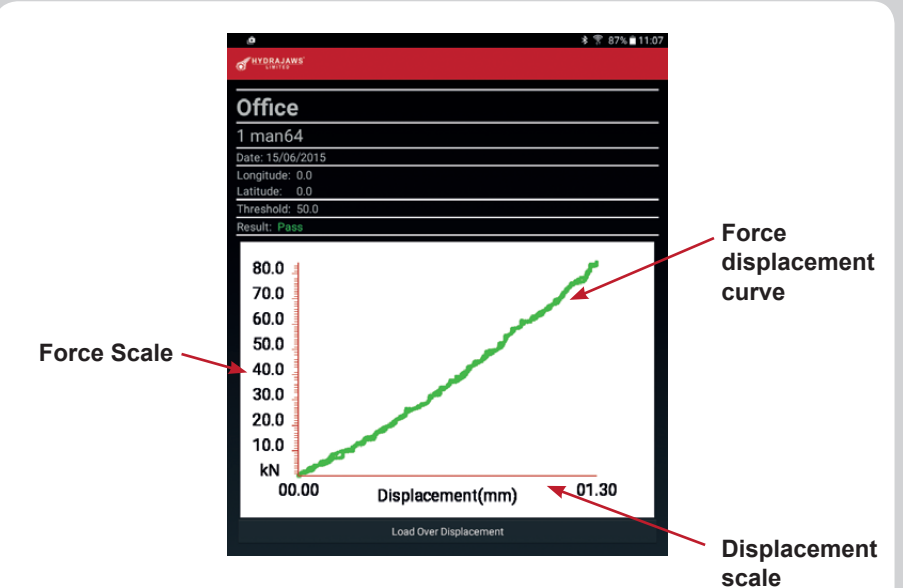
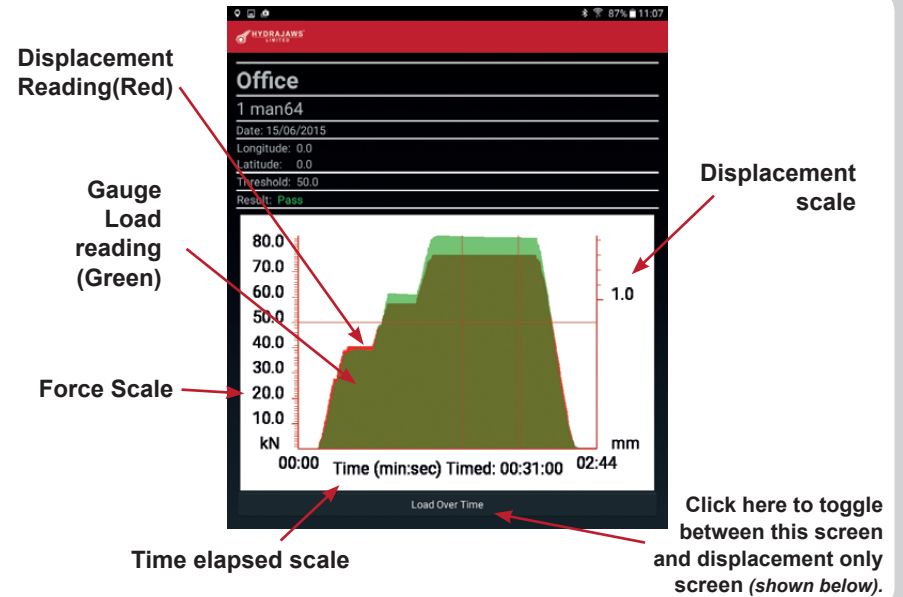
The displacement is measured in millimetres (mm).

To reset the displacement counter press the Zero Displacement button.



## 6.4 DISPLACEMENT RESULTS

If displacement is activated during the test, the results graph will contain this extra data.





## 7. OPERATING THE DIGITAL GAUGE

### To operate gauge in 'Normal rise and fall' mode

Press button **P** to switch gauge on to 'Normal rise and fall mode'.

This will give a load reading in kN rising as the operating handle on the tester is turned clockwise. By turning the handle anti-clockwise the load will decrease and show the reading decreasing.

Press **P** to switch off gauge when finished.



### To Zero the gauge

If the gauge is reading a small amount (0.32 for example) when no load is applied - use the following instructions to re-set the display to zero.

First release any pressure held in the Hydraulic Coupler by pushing in the pin at the base of the coupler.

Press **P** to turn on then **▼**, display='Pdu'

Press **P** display = 'OFF'

Press **P** display = 'PASS'

Press **P** display = '0'

Press **▲** until reading reaches '5'

Press **P** display = 'ZERO'

Press **P** display = 'SET'

Press **P** display = 'PSET'

Press **P** display = '5'

Press **P** display = '0.0'



#### CAUTION:

DO NOT ZERO THE GAUGE WHEN IT IS UNDER LOAD.

Eventually, the warning indicator will come on and the battery will require replacement. It is fitted under the removable cover on the back of the gauge. Replace with type PP9 9 volt unit.



**Note:**  
Ensure wire is on top of battery when replaced.

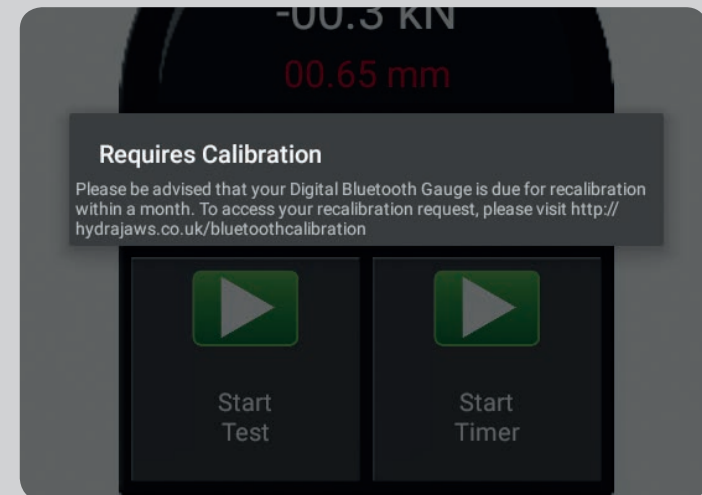
## 8. CALIBRATION PROCEDURE

### 8.1 ANNUAL CALIBRATION

After twelve months the gauge will be out of calibration and the software will not operate. A reminder will appear on screen one month before calibration is due.

Go to [www.hydrajaws.co.uk/bluetoothcalibration](http://www.hydrajaws.co.uk/bluetoothcalibration) or contact Hydrajaws to arrange return of the gauge to Hydrajaws.

The gauge software will be reactivated along with annual confirmation of the gauge accuracy. Any upgrades will also be implemented. An annual fee will be applicable



*Please return the gauge in the original gauge packaging provided.*



## 9. TROUBLESHOOTING PROBLEMS

### My Android Device won't allow the app to be installed?

If not downloaded from Google Play, the app is said to be from an Unknown Source. Please ensure that for the duration of Installation, Unknown Sources is enabled.

### Getting 'Parse Error' on Android device when trying to install?

Ensure your device has an operating system of 4.4 or newer.

### The app is not working on my Apple device when first installed?

If there is no test data, remove the app and reinstall it again.

### Why are there no visible digits on my gauge?

Please ensure that a fully charged battery is fitted in the gauge and then ensure that the gauge is switched on.

### Why won't my gauge pair with my Android device?

Once the Bluetooth function on the gauge has been activated, you have 1 minute to pair your gauge with your Android device. If you exceed this limit, please repeat the process of pairing your gauge and Android device. Begin by switching the Bluetooth function OFF and ON again.

### Why won't the app let me start a test?

Please make sure you are connected to a gauge, and have set up a Site file and an individual test file.

### Why won't the timer start?

Please ensure you have started a test. The START TEST button will change to STOP TEST when a test is live.

### Why can't I reset displacement during the test?

Once a test has begun, the displacement mode cannot be changed until after the test has been stopped. The Displacement function is designed to zero the displacement after eliminating any recognised elasticity in the setup.

### I've misspelt something! Can I change it?

A long press on a File Name (individual test file) will enable you to edit the File.

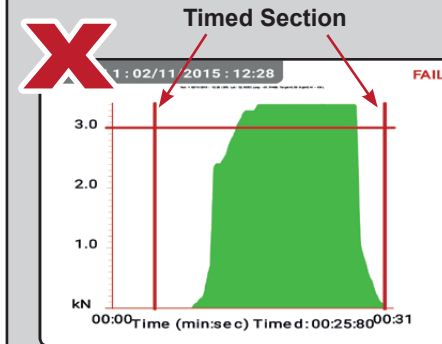
### Why is my mobile/tablet running slow when reporting a test? Why is my app crashing when I try to open it?

Check the battery is fully charged and there is plenty of memory available. Due to limitations of mobile phones and tablets it is recommended that no more than 50 tests are put into a single site folder.

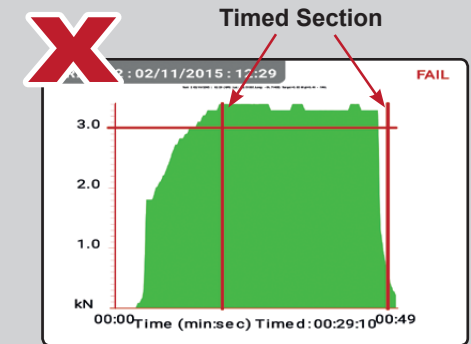
### Why won't the app install and I get a 'device not compatible' message instead?

Check your tablet/mobile is in the compatible devices list in the app store and that you have the latest operating system installed.

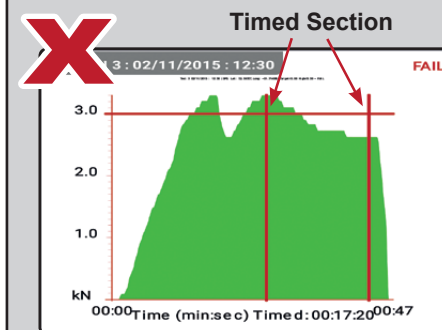
The graph shows a **FAIL** when it has reached the target load?  
(see example graphs below)



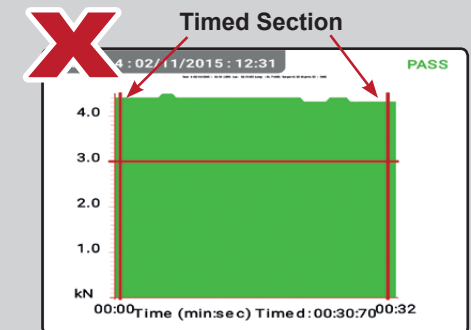
The timer was started before the load was wound up. The app result is performed on the results between the timed section (when wind up load was below target) and so produces a FAIL.



The timer was left to run during the wind down. The app result is performed on the results between the timed section (when wind down load was below target) and so produces a FAIL.



Although the target load was achieved, the load dropped between the timed section and so a FAIL was produced.



Test was started after wind up and before the wind down of load. Although this correctly shows a PASS, it is not recommended practice.

Please see section 4.2 Carrying out a test.

For further help & information please see the  
FAQ page on our website at [www.hydrajaws.co.uk](http://www.hydrajaws.co.uk).

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