James Heal

OPERATOR'S GUIDE

Titan 10/25
Universal Tester



Covering Serial Numbers
2310-23-100 & upwards.

PPT Group UK Ltd
t/a James Heal®
Halifax, England

Publication 290-2310-1$B
© 2024

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TABLE OF CONTENTS

James Heal v
Setting the Standard v
Areas of Expertise v
Technical Assistance 6
1. General Information 2
2. Revision History 3
3. Declarations of Conformity 4
EU Declaration of Conformity 4
UKCA Declaration of Conformity 4
4. Safety 5
General 5
Guarding 6
5. Instrument Summary 7
Machine Description and Features 7
Guarded Instrument 7
Unguarded Instrument 9
Accessories 11
Specifications 13
Electrical Specifications 13
Electrical Power Cable 13
Dimensions 14
6. Pre-Installation 16
Customer Responsibilities 16
Area Planning 17
Air Supply 17
Compressed Air supply 17
Environment 17
7. Delivery, Assembly, Installation & Commissioning 18
Delivery Inspection 18
Unpacking Checklist 18
Moving the Instrument 19
Installation Procedure 19
Lifting and Moving Titan 20
Levelling the Instrument 21
Connections 22
Electrical 22
Air Supply 22
Installation Safety 23
8. Operational Safety 24

9. Product Overview 26
Description of Universal Testing 26
Features & Benefits 26
Standards 27
10. Unguarded Titan Operation Quick Start Guide 27
11. Guarded Titan Operation Quick Start Guide 27
12. TestWise Installation 27
Recommended Specification for PC and Printer 28
Installation of TestWise using Licensed Dongle 29
13. Limit Switch Guidance 31
14. Installation of Load Cells and Jaw Schemes 33
15. Tooling Installation Quick Start Guide 34
16. TestWise Quick Start Guide 36
17. Inspection, Testing and Maintenance 40
Maintenance and Calibration 40
Electrical Isolation 41
Cleaning Instructions 41
18. Service, Calibration & Support 42
Service & Calibration 42
19. Accessories and Spares List 43
20. Fault finding, trouble shooting and repair 44

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 150 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 a global network of Agents and Distribution partners, 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
- Drying Rate
- 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
- Wicking

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

Technical Assistance

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

1. General Information

Manufactured by:

PPT Group UK Ltd
t/a James Heal®
Richmond Works
Lake View
Halifax
HX3 6EP

Telephone No: 01422 366355

This manual is valid for the James Heal® Titan 10/25, Universal Tester.

This manual covers the operation and day to day maintenance for the James Heal® Titan 10/25, Universal 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 reflects improvements introduced after the publication of the manual. Any amendments will be recorded in the Revision History table below.

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

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

2. Revision History

See front cover for Publication number, e.g., 290-2136-1

Revision	Date	Originator	Details Of Revision
A	17/11/2023	AC	Operators Guide Created
A1	06/02/2024	AC	Publish Date
B	07/08/2026	SEW	Removed hand controller and foot pedal reference from 'Three Clicks' start on Features & Benefits on page 26
C			
D			

3. Declarations of Conformity

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):

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

hereby declare that:

Equipment:	**Titan 10/25**
Models:	**2310**
Description:	**Universal Tensile Strength Tester**
Serial Number:	**2310/23/1000 & 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 60204-1	Safety of machinery. Electrical equipment of machines - General requirements	2018
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.

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:	**Titan 10/25**
Model:	**2310**
Description:	**Universal Tensile Strength Tester**
Serial Number:	**2310/23/1000 & 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**
2016 No. 1101	**The Electrical Equipment Safety Regulations 2016**
2012 No. 3032	**The Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment Regulations 2012**

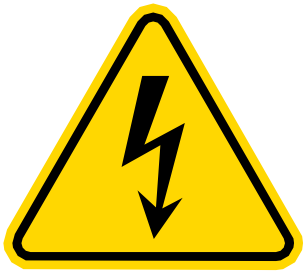
Relevant designated standards:

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 60204-1	Safety of machinery. Electrical equipment of machines - General requirements	2018
BS EN 61326-1	Electromagnetic Compatibility (EMC) Electrical equipment for measurement, control and laboratory use.	2013

4. Safety

General

Always observe the following safety precautions.

	**Note:** All operators and customer maintenance personnel should familiarise themselves with this manual before using or servicing the equipment.
	**Lifting/Movement** The instrument weighs 230kg. Sufficient personnel and lifting devices must be used to move the instrument. The correct lifting equipment must be used, taking note of the center of gravity to ensure the lift is completed in a safe manner.
	**Electric Shock** No access to the internal workings of Titan 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. Only use the specified rated voltage specifications indicated on the instrument. Ensure the mains power cable is protected from hot surfaces. The mains power cable must not be subject to foot or machine traffic & must not be placed on the floor without adequate protection. Always have all the instrument covers in place when the instrument is plugged in, and the mains power switch is on. Do not defeat or bypass built-in equipment safety features. Any adjustments must only be carried out by suitable skilled or properly instructed/supervised personnel.

 	**Be aware of hazards on the instrument indicated by this symbol.** **Moving Components and Trap Hazards** Moving components such as the crossmember and tooling 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.
 Eye protection must be worn	**Eye Protection** There is a possible hazard of the sample rupturing, we advise that you use this instrument with a guard in place. Appropriate Personal Protective (PPE) must be worn when using the instrument, performing regular testing and maintenance.

Guarding

	James Heal® recommends all Universal Strength Testing Instruments should be used with a guard. It is at your discretion to operate the instrument without a guard and if doing so we would advise you conduct your own risk assessment for every test and specimen.

5. Instrument Summary

Machine Description and Features

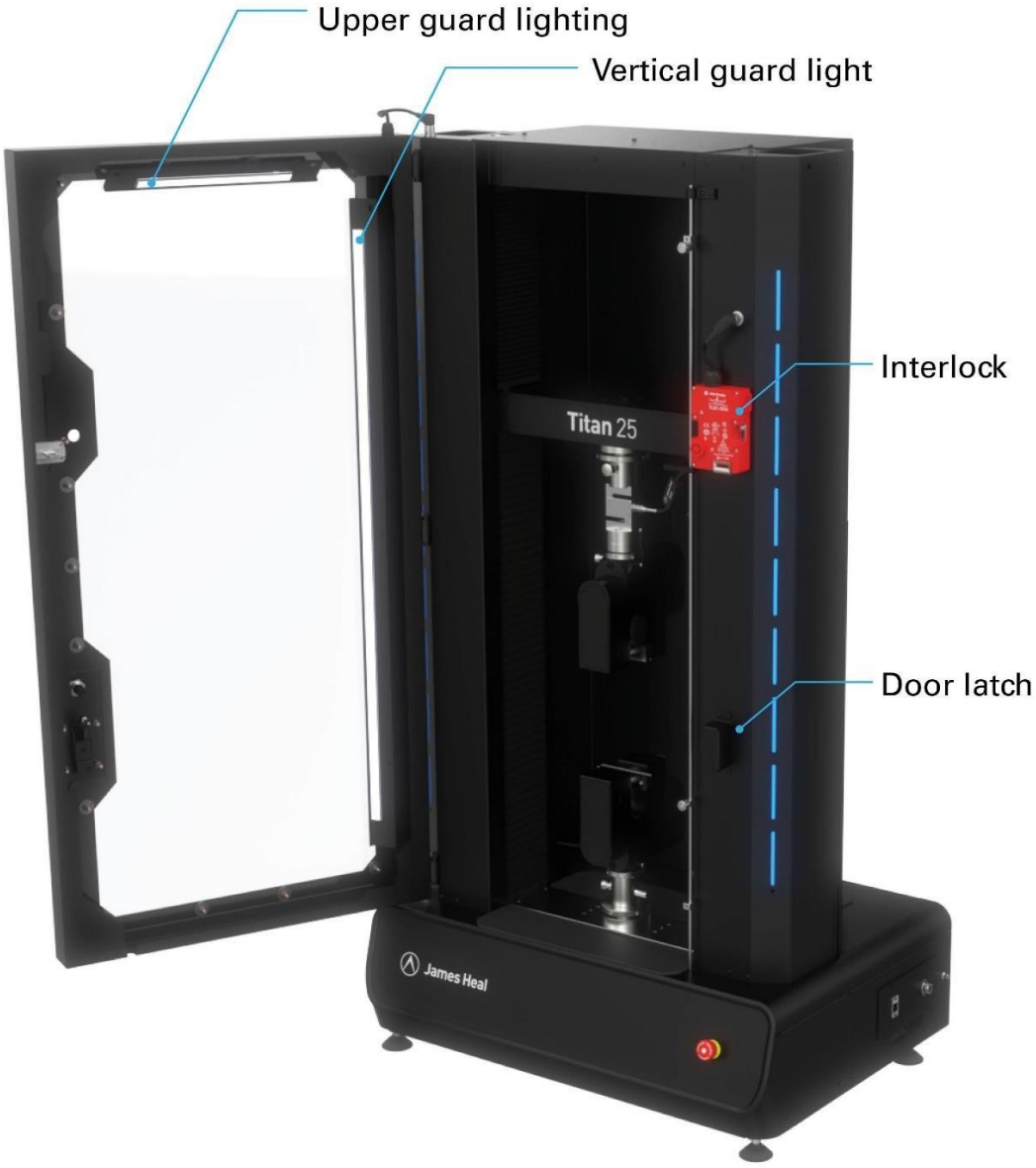
Titan is a Universal Strength Testing Instrument, used for tension and compression testing.

Guarded Instrument

Titan 25 – Guard door closed.

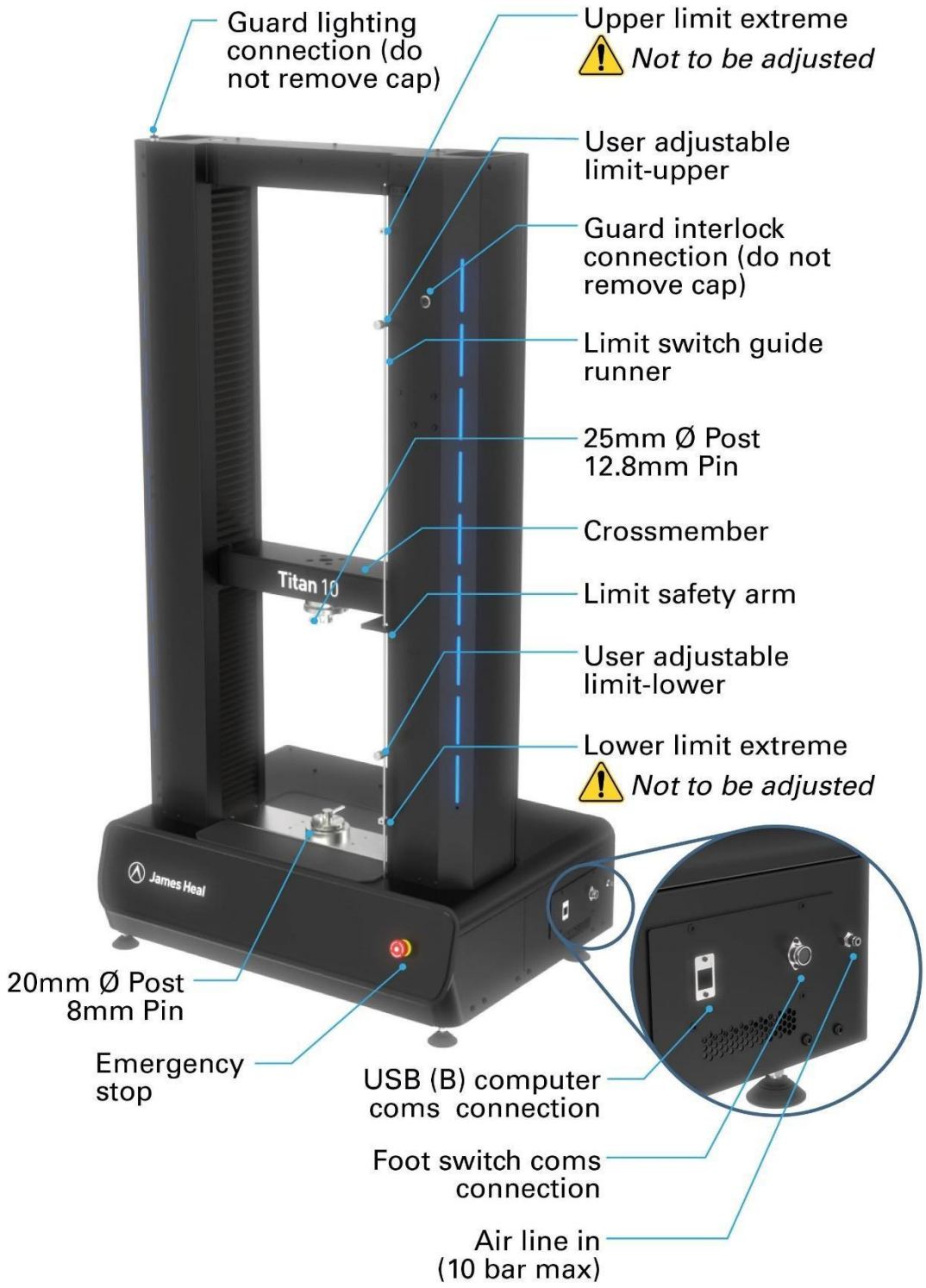


Titan 25 – Guard door open.

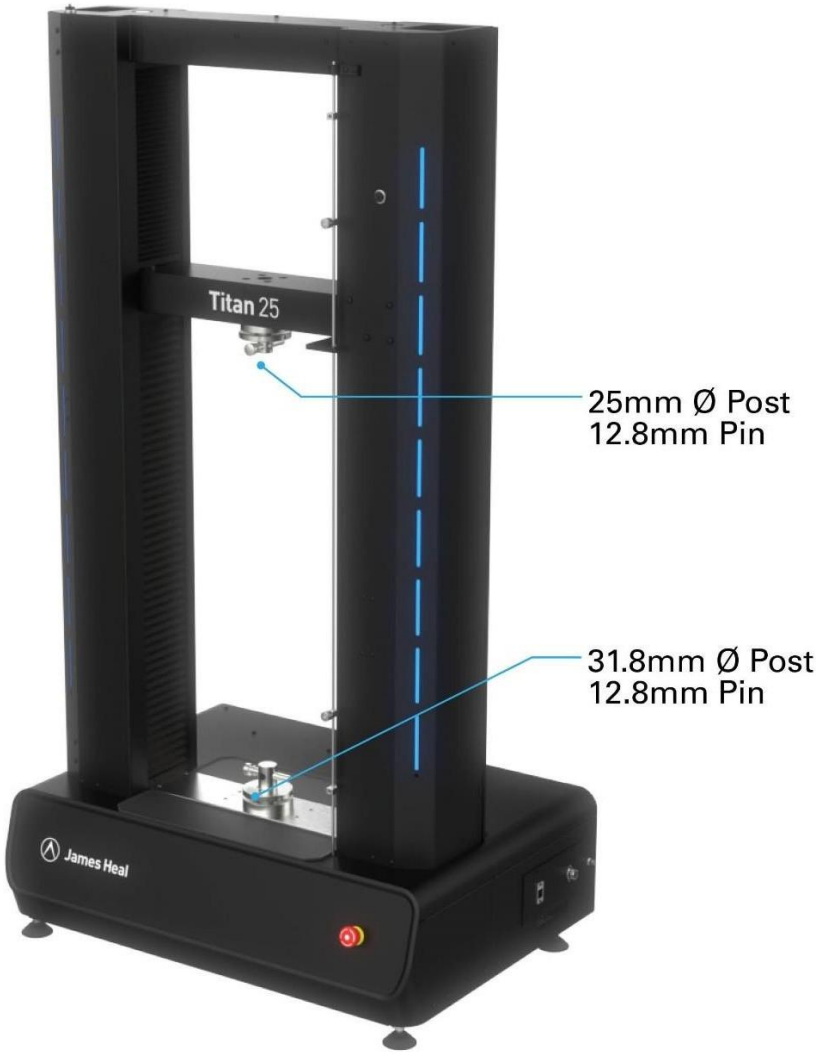


Unguarded Instrument

Titan 10 – Front

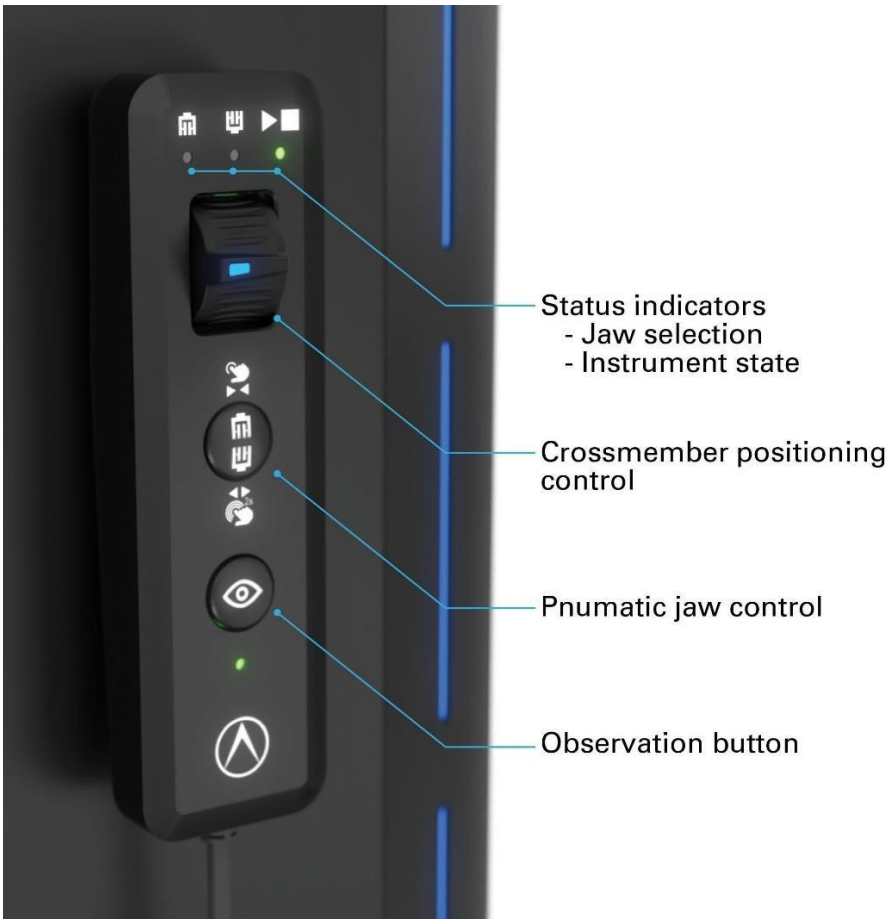


Titan 25 – Front

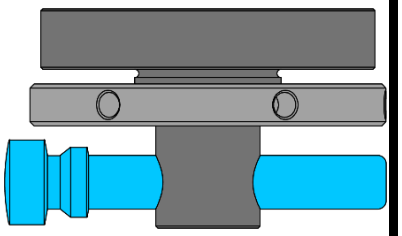
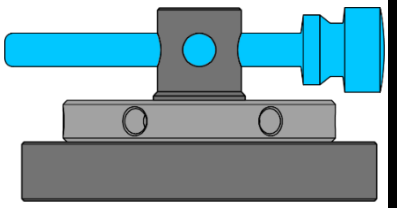
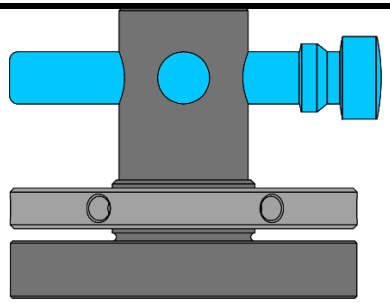
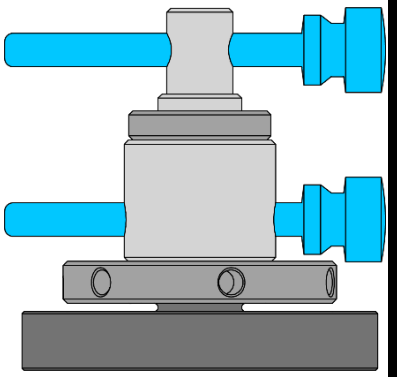
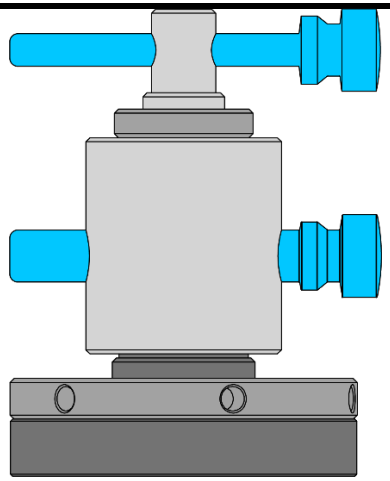
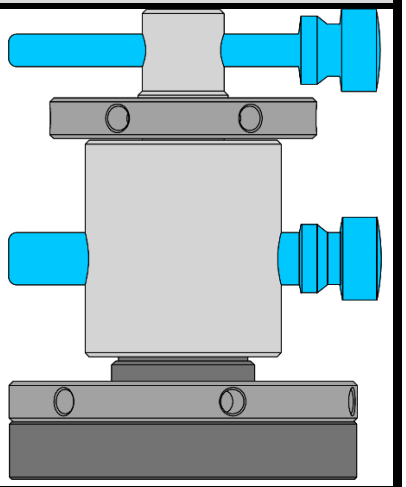


Accessories

Hand controller



Instrument pin and post connectors and adaptors.

Instrument	10 / 25	10	25	
Fixture	Upper	Lower	Lower	
Crossmember				
Post	25mm	20mm	31.8mm	
Pin	12.8mm	8mm	12.8mm	
Load Capacity	≤25kN	≤10kN	≤25kN	
Adaptor				
Post		15.9mm	15.9mm	20mm
Pin		8mm	8mm	8mm
Load Capacity		≤5kN	≤5kN	≤10kN
Code		705-725	705-723	705-724

Specifications

	James Heal® Titan 10	James Heal® Titan 25
Capacity (Tension & Compression):	10000 N, 10kN, 1000kgf and 2204.6 lbf	25000 N, 25kN, 2550kgf and 5621.8 lbf
Machine Only W x D x H (mm / inches) Weight (kg / lbs)	W 1090 x D 603 x H 1576mm W 42.90 x D 23.75 x H 62” 230 kg 507 lbs	W 1090 x D 603 x H 1576mm W 42.90 x D 23.75 x H 62” 230 kg 507 lbs
Machine with Guard Weight (kg / lbs)	261 kg 575.4 lbs	261 kg 575.4 lbs
Test / Return / Jog Speed:	0.1-1000mm/min	0.1-1000mm/min
Speed Accuracy:	± 0.003%	± 0.003%
Positional Accuracy:	± 0.00167mm	± 0.00167mm
Total Vertical Stroke:	900 mm - Maximum movement of the head between limit switches when no jaws are fitted.	900 mm - Maximum movement of the head between limit switches when no jaws are fitted.
Electrical Requirements	Voltage: 220-240Vac Frequency: 50/60Hz Current: 3A	Voltage: 220-240Vac Frequency: 50/60Hz Current: 3A

Electrical Specifications

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

Voltage: 220-240Vac
Frequency: 50/60Hz
Current: 3A
Fusing: 2 x 5AT Time delay
Caution: Double-pole neutral fusing

For 110-120Vac voltage supply use transformer supplied at point of sale.

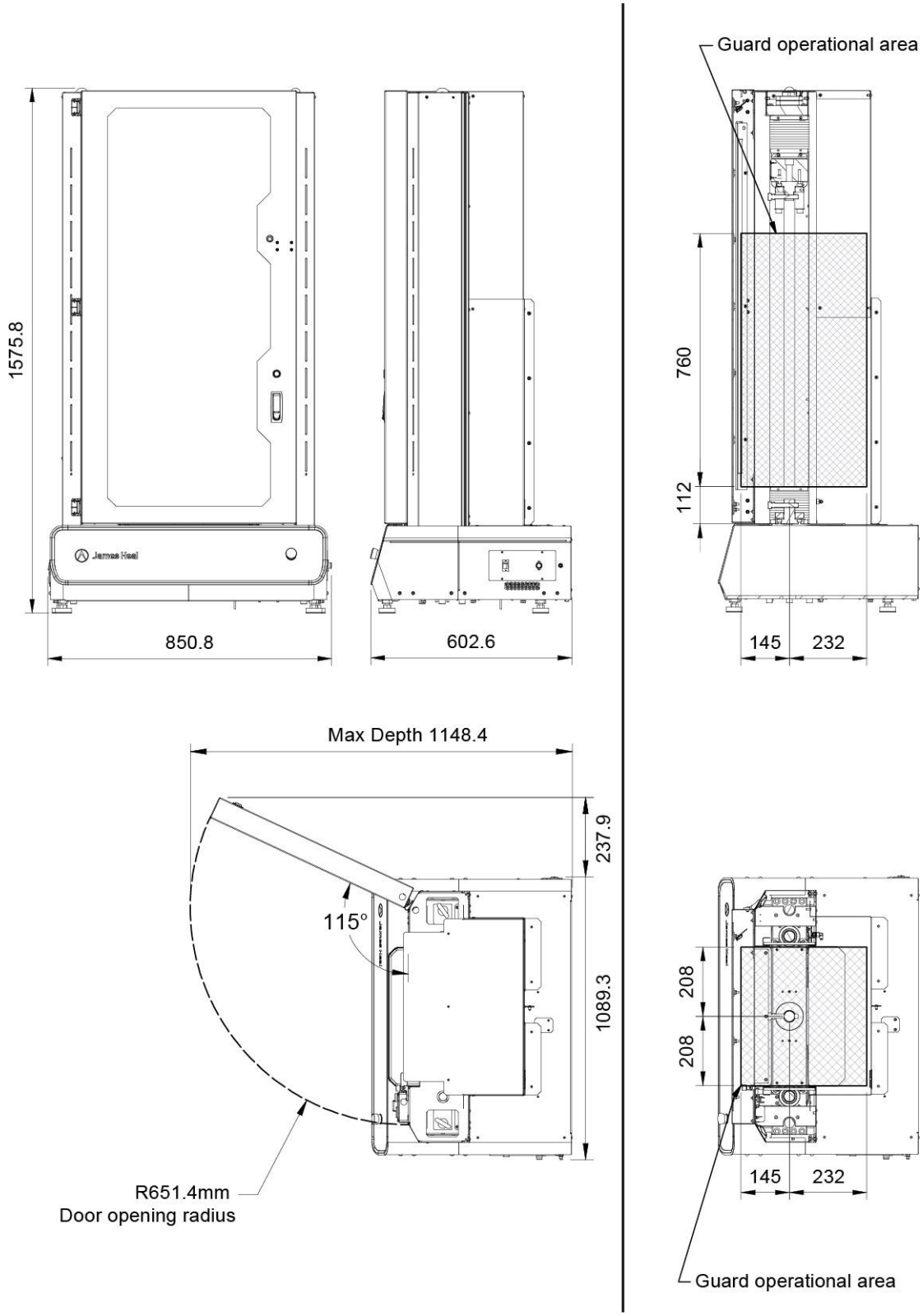
This instrument is supplied with European mains plug lead.
Using European plug leads can result in polarity reversal.
Therefore, double fusing is used within this equipment.
This ensures that protection is provided for both phase-to-ground faults & phase-to-neutral faults.

Electrical Power Cable

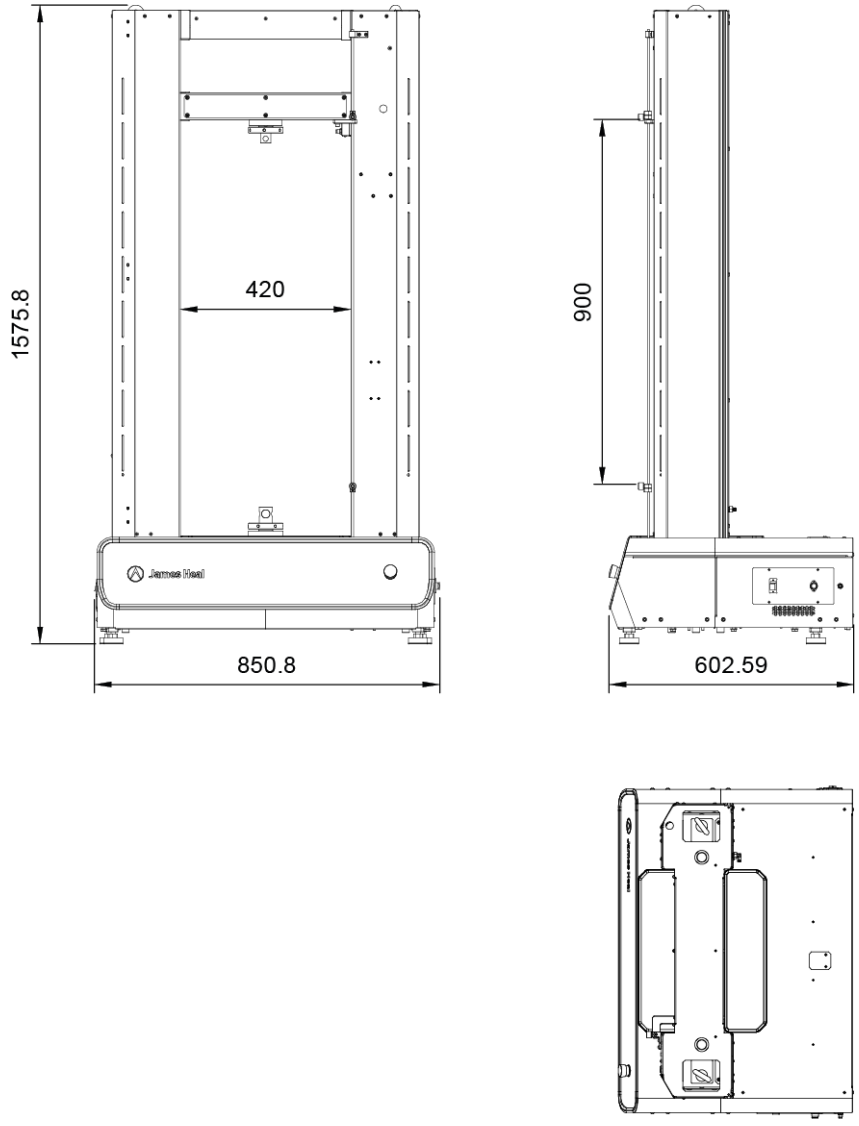
The equipment is provided with a 2-meter-long power cord for UK, EURO & U.S.A mains connection.

Dimensions

Twin Column Titan - Guarded



Twin Column Titan - Unguarded



6. Pre-Installation

Customer Responsibilities

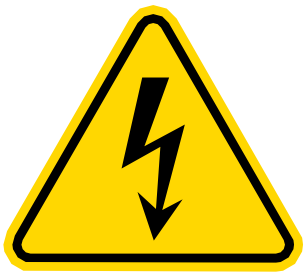
The James Heal® Titan 10/25 instrument will be shipped in one crate, if ordered as a standalone instrument. The contents of which will need transporting to the install site by James Heal® or associated agent.

James Heal® or associated agent will install this instrument, we advise all installers to be familiar with the Safe Working Procedure Document of Titan 10/25 before commencing installation.

Prior to installation check content of delivery using the Unpacking Checklist below.

General responsibilities include:

Providing James Heal with delivery instructions.

Warning Symbol	Hazard & Warnings
 	**Handling Equipment** Access to suitable and sufficient lifting equipment for the unguarded 230kg unit or 261kg guarded unit. **Personnel** Provide enough people to unload/unpack/transfer the equipment. **Electrical** Only use the specified rated voltage specifications indicated on the instrument. **Delivery Route** Ensure the delivery route is clear with no obstacles. **Unit** Minimum width: 1090 mm Minimum height: 1576 mm Minimum Depth: 603 mm Minimum weight: 230 kg – unguarded instrument 261 kg – guarded instrument

Area Planning

Titan is a heavy test instrument. Care needs to be taken when installation takes place, preventing damage or compromise of the test instrument, which could result in invalid results.

1. The final location of Titan has a weight bearing capacity of at least 280 kg, the customer must ensure that the work surface can support this weight. If heavy specimen are being tested, factor this in to the load bearing surface.
2. The final location is set at a usable access height, for users to load the samples and engage the e-stop if required.
3. Adequate space for safe operating and installation of the equipment is recommended at a minimum of 1000mm/39.4" in front of the machine.
4. Ensure the work surface is level in both directions. Some adjustment can be achieved through the adjustable feet on the instrument.
5. Ensure there is the correct electrical power supply where the instrument is going to be placed.
6. It is recommended that the work surface is stain and chemical resistant for ease of cleaning.
7. Ensure the correct air supply is installed prior to delivery:

Air Supply

- 10 Bar for best clamping performance.
- 6mm outside diameter pipe.

Compressed Air supply



It is recommended the air supply has a minimum Free Air Delivery (FAD) of 11 litres per minute at 8 bar (116psi) and must be filtered to 5 microns (absolute) or better to remove excess particulates, oil and moisture. Minimum air supply 5 bar, optimum pressure 7 bar.

Note: Titan is fitted with on-board filtering. However, a contaminated air supply (not filtered) will result in early blockage of the on-board filter element.

For laboratories without a dedicated compressed air supply, we can offer the choice of an 110V (60Hz) or 230V (50Hz) silent laboratory compressor.

Environment

As with all physical testing, tests should be carried out in a standard atmosphere for testing textiles, i.e., 20°C and 65% RH. However, the instrument will operate satisfactorily providing temperature and humidity levels are relatively stable. The humidity conditions must be non-condensing. The surrounding area should be electrically and magnetically stable.

7. Delivery, Assembly, Installation & Commissioning

Delivery Inspection

Your James Heal® Titan 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 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 Symbol	Hazard & Warnings
	Beware of sharp edges, splinters, pinch points, exposed nails and staples when unpacking. Wear safety shoes, protective gloves and safety glasses.

Unpacking Checklist

List of components/assemblies that will be delivered:
Titan 10

Stock Code	Item name	Quantity
	Titan 10	1
794-982	TestWise for Titan	1
142-326	Mains lead set angled	1
154-184	2-meter USB type A to B Cable	1
705-725	Lower fixture adaptor kit: 20mm to 15.9mm post	1
PDV21052-11	C-Spanner	1

Titan 25

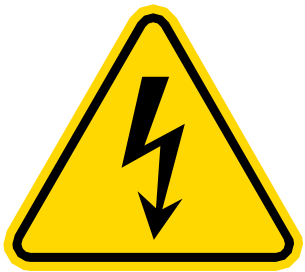
Stock Code	Item name	Quantity
	Titan 25	1
794-982	TestWise for Titan	1
794-982	TestWise for Titan	1
142-326	Mains lead set angled	1
154-184	2-meter USB type A to B Cable	1
705-723	Lower fixture adaptor kit: 31.8 to 15.9mm post	1
705-724	Lower fixture adaptor kit: 31.8 to 20mm post	1
PDV21052-11	C-Spanner	1

Moving the Instrument

Warning Symbol	Hazard & Warnings
	**Personal Protective Equipment** Ensure safety shoes and suitable gloves for the task are used to move/install the instrument. **Lifting/Movement** The instrument weighs 230kg without a guard. Competent personnel and lifting devices must be used to move the instrument. Take note of the center of gravity to ensure the lift is completed in a safe manner. **Delivery Route** Ensure the delivery route is clear with no obstacles.

Installation Procedure

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

Warning Symbol	Hazard & Warnings
 	**Electrical** Only use the specified rated voltage specifications indicated on the instrument. Ensure the mains power cable is protected from hot surfaces. The mains power cable must not be subject to foot or machine traffic & must not be placed on the floor without adequate protection. Always have all the instrument covers in place when the instrument is plugged in & the mains power switch is on. Do not defeat or bypass built-in equipment safety features. Any adjustments must only be carried out by competent or properly instructed/supervised personnel.

Lifting and Moving Titan

General Guidance

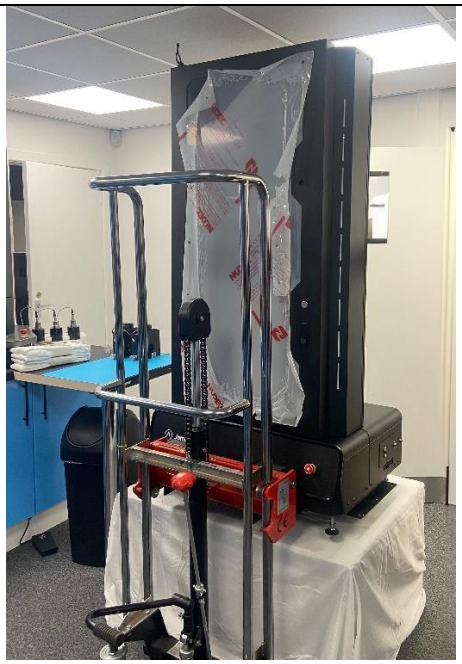
Ensure the path to the installation site is clear of obstacles and suitable lifting equipment is available, (i.e., genie lift or pallet truck).

Ensure Titan is placed on an appropriate load bearing work surface at the correct height for operatives to load test samples.

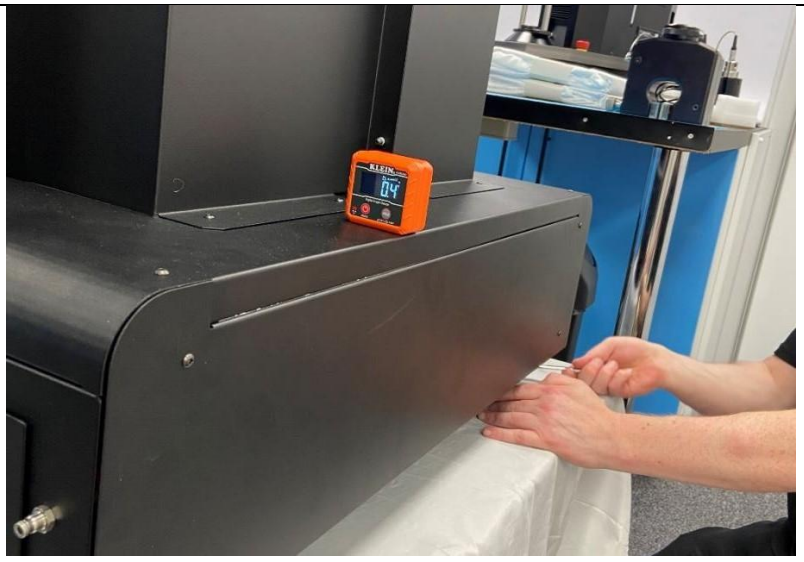
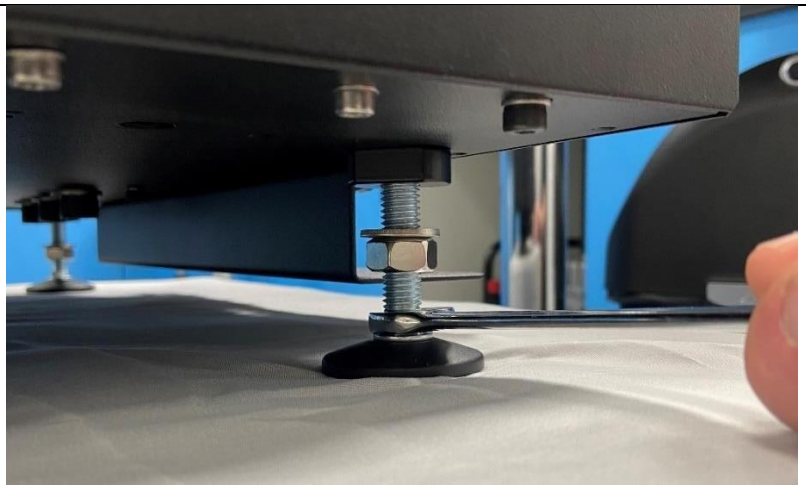
It is important the instrument is levelled during the installation of the instrument, see next page).

Ensure it is located close to a power supply.

1. Using the correct lifting equipment, move the machine to the instruments operating area. Where possible keep the instrument on its pallet with transport fixings in place.	
2. Once in the vicinity of operating location remove pallet transport fixings and remove from the transport pallet.	

3. With the correct lifting equipment lift the instrument from the pallet onto the loadbearing work surface. 4. Remove the lower transport brackets from the instrument. 	

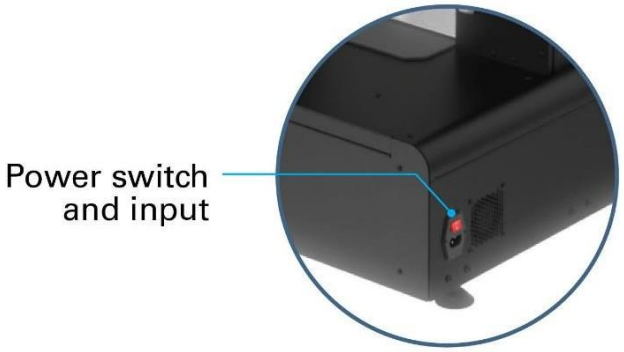
Levelling the Instrument

1. Once the Titan is located on the surface Check the level of the instrument using a spirit or digital level.	
2. Adjust all the four feet at the base of the instrument to ensure it is level. Make sure that the bolts are securely fixed to the upper block once the levelling has been completed.	

Connections

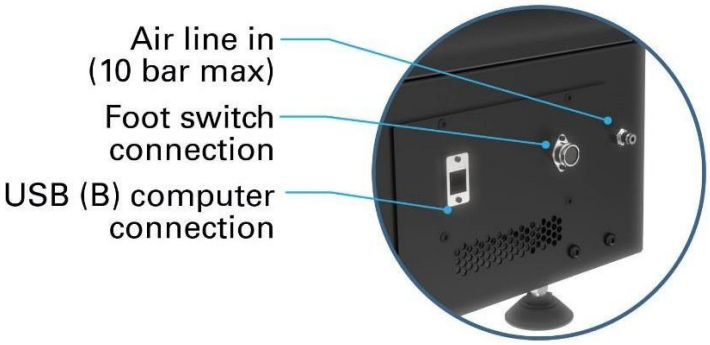
Electrical

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



Air Supply

- 10 Bar for best clamping performance.
- 6mm outside Diameter Pipe.



Installation Safety

Warning Symbol	Hazard & Warnings
	**Personal Protective Equipment** Ensure safety shoes and nonslip gloves are used to move/install the instrument. **Lifting/Movement** The machine weighs 230kg unguarded or 261kg guarded. Trained personnel and the correct lifting equipment must be used, taking note of the center of gravity to ensure the lift is completed in a safe manner. **Delivery Route** Ensure the delivery route is clear with no obstacles. **Electrical** Only use the specified rated voltage specifications indicated on the instrument. Ensure the mains power cable is protected from hot surfaces. The mains power cable must not be subject to foot or machine traffic & must not be placed on the floor without adequate protection. Always have all the instrument covers in place when the instrument is plugged in & the mains power switch is ON. Do not defeat or bypass built-in equipment safety features. Any adjustments must only be carried out by suitable skilled or properly instructed/supervised personnel. Do not use an extension lead. Do not defeat or bypass built-in equipment safety features. Any adjustments must only be carried out by suitable skilled or properly instructed/supervised personnel.
	The fan (exhaust) must not be obstructed, located next to the power switch.

8. Operational Safety

Operator Safety

Note: All operators should familiarise themselves with this manual before using the instrument.

Warning Symbol	Hazard & Warnings
	**Emergency Stop button** This Emergency Stop button is designed to stop the movement of the cross member. When pressed, the button will latch in the stop position. To release the Emergency Stop button, twist the red cap in a clockwise direction. Attempting to start a test with the button in the stop position will result in a warning message being displayed. WARNING – the emergency button merely stops the instrument – it does not isolate the instrument from the electrical supply.
	**Eye Protection** There is a potential hazard of the sample rupturing, we advise that you use this instrument with a guard in place. The guard is available at point of sale. Appropriate Personal Protective Equipment (PPE) must be worn when using the instrument, performing regular testing and maintenance.
	Be aware of hazards on the instrument indicated by this symbol. **Moving Components and Trap Hazards** Moving components such as the crossmember and tooling 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.

	**Upper and Lower extreme limits** The Upper and Lower extreme limits should not be moved. If moved or adjusted this could cause a cross member collision and damage the instrument.
	**Electric Shock** There should be no access to the internal workings of Titan 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 back left side of the instrument. **Working Area** The area around the instrument should be kept clean, dry and clear of any waste material. The equipment must only be operated in an environment with adequate lighting with no shadow or stroboscopic effects. **DO NOT ALLOW** general access to Titan. Only competent and trained personnel should operate the equipment. Titan should be stored in a controlled environment where only authorized personnel have access. **Warranty** Do not attempt to gain access to the internal workings of Titan. If Titan is tampered with this will invalidate the warranty.

9. Product Overview

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

Description of Universal Testing

Titan 10/25 machines are an outstanding, sixth generation Universal Strength Tester, designed specifically for testing textiles, nonwovens, leather, and shoes. These products can be tested in various forms and for a wide range of applications including yarns, fabrics, garments, and security of attachments.

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

Features & Benefits

- Standards compliant Universal Strength Tester.
- Operates as standard in both tension and compression.
- Extensive range of tool-free, quick fixture interchangeable specimen grips
- Choice of load cells dependant on machine – 100N, 200N, 500N, 1000N, 2500N, 5kN, 10kN & 25kN.
- Microsoft Windows look and feel with familiar industry specific terminology.
- Single Software Package for testing yarns, fabrics, accessories.
- Hand controller for 'at instrument' control.
- Extensive library of pre-loaded, national and international standards and retailers' and James Heal in House test methods.
- 'Standards Editor' making it easy to modify existing standards or create new methods.
- Automatic setting of test parameters for quick use or simple forms for easy use.
- 'Three Clicks' to start testing using a choice of the keyboard or Titan button.



Service and Calibration

- Worldwide Service
- UKAS (ISO 17025 based) Accredited Calibration Service (tension and/or compression)
- 18 Months' Warranty

Technical Assistance

- Operator Training
- Knowledge transfer
- TestWise Software Online Maintenance and User Support
- Applications Support
- Engineering Support

Standards

TestWise has approximately 800 standards built into the software. This includes international standards from all associated bodies, customer specific test methods and some James Heal in-house test methods.
For a comprehensive list see the TestWise Software Guide or speak to one of our Sales Representatives.

10. Unguarded Titan Operation Quick Start Guide

Unguarded Titans are machines which do not have a protective guard around the front and back of the test area. This means there are no additional user operations required before testing can be carried out.

Read the following sections for the installation of TestWise and setup of the instrument.

11. Guarded Titan Operation Quick Start Guide

A guarded Titan requires additional steps to operate the machine as the access to the machine has safety features ensuring testing cannot be carried out with the door open.

Please contact your supplier for the guarded Titan operation instructions.

12. TestWise Installation

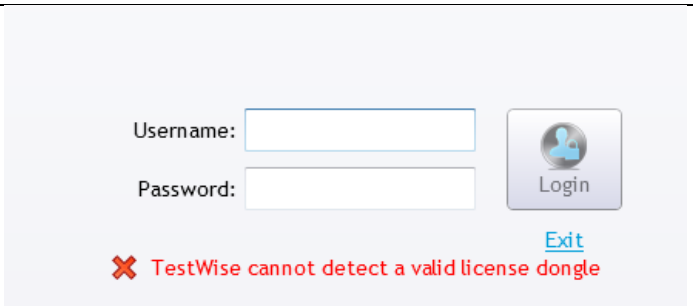
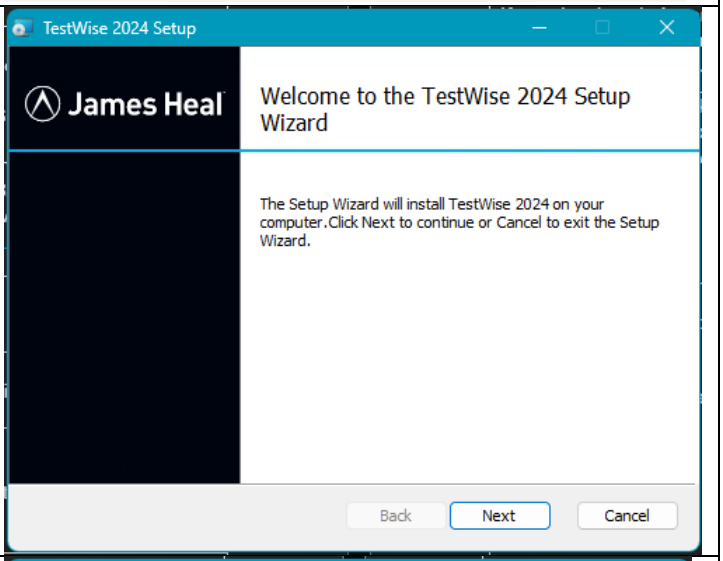
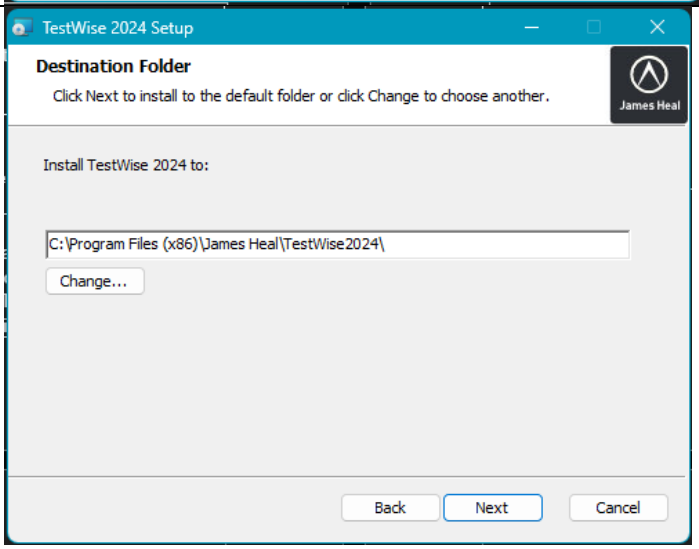
TestWise is the name of the software used to control and view results from the Titan instrument. It is installed from a USB Licensed Dongle which must always be inserted into the machine to run. Charges will apply for any replacement licensing dongles.

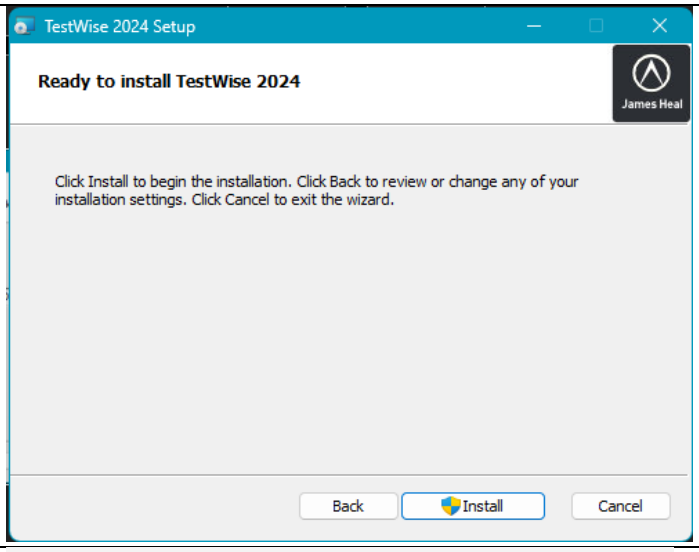
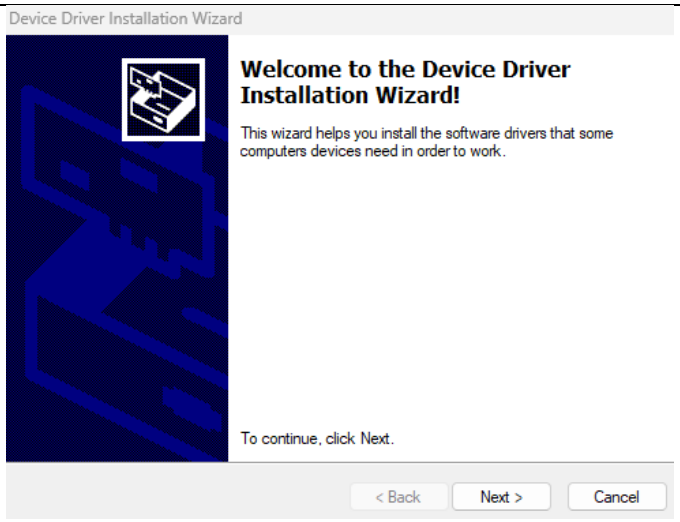
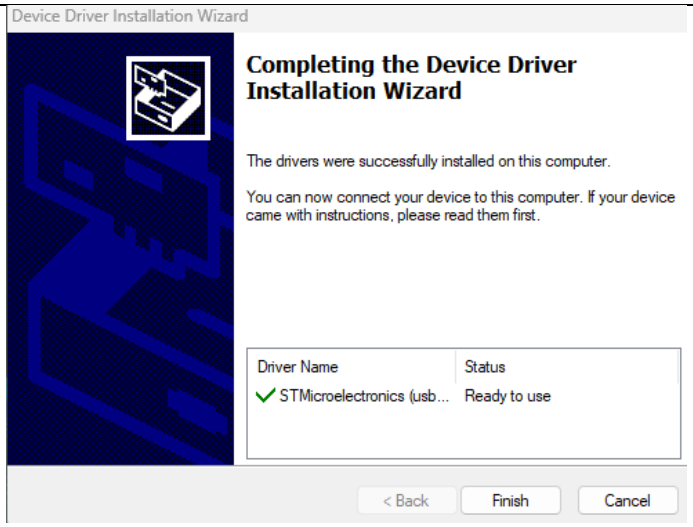
Recommended Specification for PC and Printer

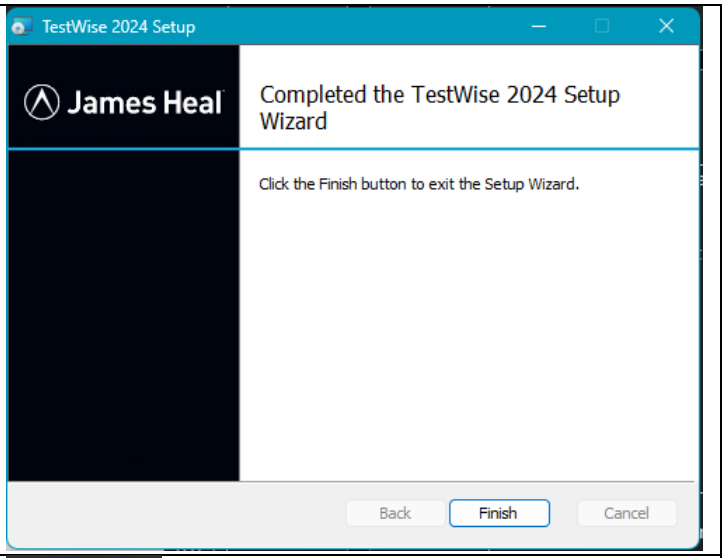
Computer	Personal Computer (PC) The use of Apple Macs running Windows in a Virtual Machine is not supported.
Processor	As specified or required by the operating system. (Use the "recommended" specification).
RAM (Memory)	As specified or required by the operating system. (Use the "recommended" specification).
Operating System	Windows®10, Windows® 8/8.1, Windows® 7, Windows® Vista (SP2). Compatible with 32-bit or 64-bit OS where applicable. The Microsoft dotNET Framework must be installed – dotNet is part of Windows 10 and 8/8.1, and some releases of Windows 7 – TestWise will advise if required. Visit http://microsoft.com/net/downloads
Graphics Card	Basic/ Onboard Graphics
Monitor	Minimum resolution of 1024x768 pixels.
Hard Drive	250 GB (2 GB equates to about 1 year's testing for a typical Laboratory, without archiving).
Ports	At least 2 free USB 2.0, one for communications cable, one for licensing dongle
Printer	Any Windows compatible printer can be used. Colour printer recommended but not required. PDF generation is available within TestWise, an additional "PDF printer" is not required.
Internet	Broadband – Optional but required to take advantage of the James Heal Online Support Package.
James Heal have made every effort to ensure TestWise is compatible with the above specification. The company cannot however accept responsibility for any additional or resident software which may compromise the operation of the PC or TestWise software.	

Installation of TestWise using Licensed Dongle

The TestWise year will be relevant to the machine or software license purchased.

1. Insert TestWise Licensed Dongle into the PC used to run the Titan. Keep the dongle inserted when running the machine or the Titan will not run.	
2. TestWise will check for a valid dongle. If it is not detected, this image will be shown.	
3. The setup will automatically run and dialogue boxes will appear. Click **Next** to continue.	
4. We recommend installing TestWise to the default location. This is shown in the image. Click **Next** to continue.	

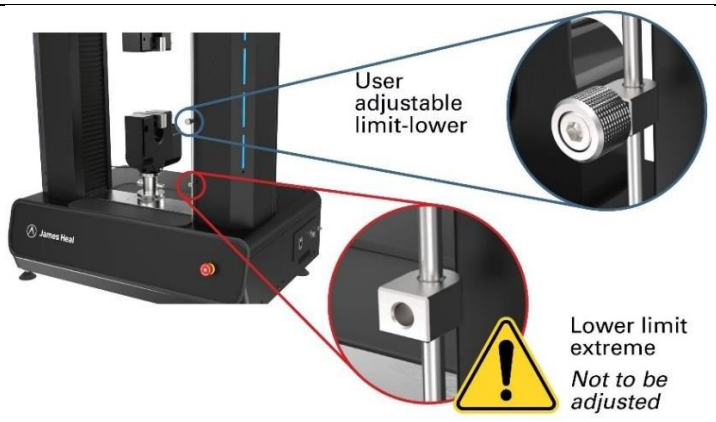
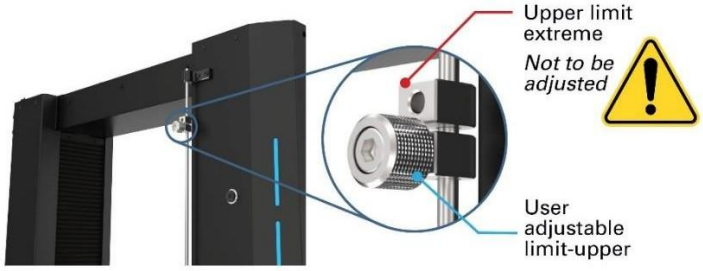
5. The setup procedure is ready to install. Click **Install** to continue.	
6. During the installation, another installer will run the communications driver. Follow the instructions for the driver to be installed. Click **Next** to continue.	
7. Once complete, the screen will appear. Click **Finish** to finish the installation and close the window.	

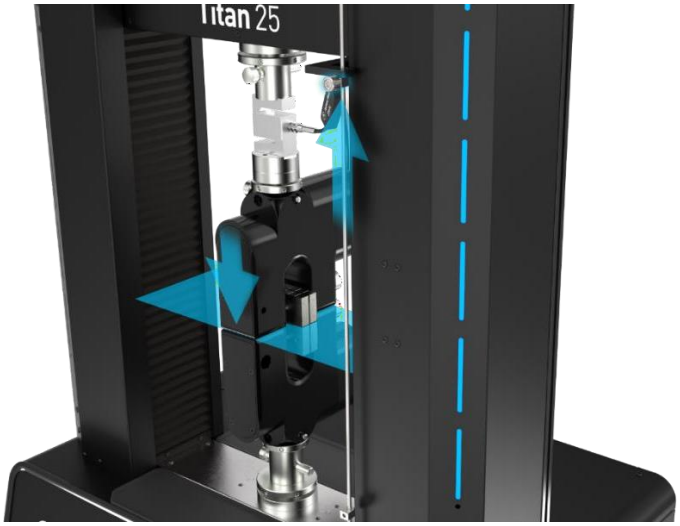
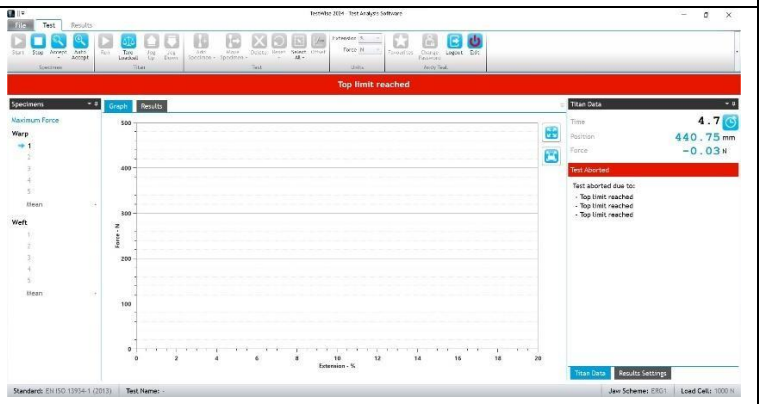
8. TestWise has now completed installation. Click **Finish** to complete installation and close the setup.	
9. The TestWise icon will now appear on your desktop.	

13. Limit Switch Guidance

Before commencing testing, please check that the upper and lower limit switches are positioned correctly. The limit switches are designed to be manually positioned before commencing testing, to prevent jaw collisions.

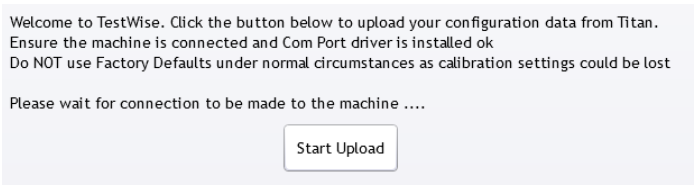
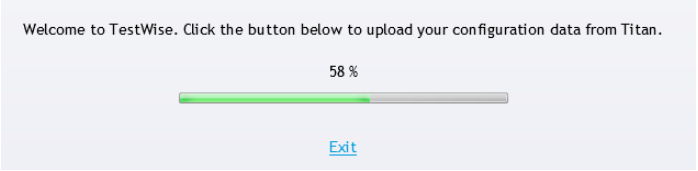
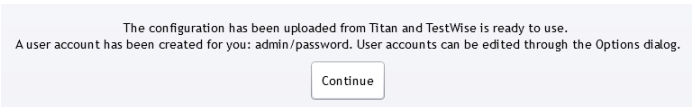
Note: Correct operation of the Limit Switch will help prevent damage to the machine and any accessories used.

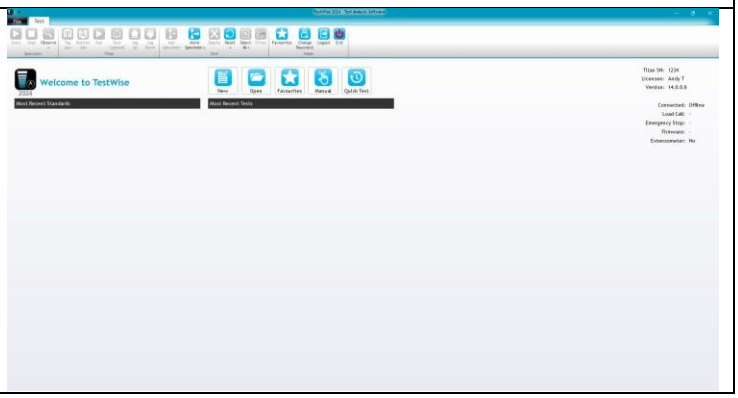
1. Fitted to the front right-hand side of the machine is a rod with four limiters. 1a. Two are fixed at the extremes of the rod and should not be moved. When moving the limits ensure they are resecured.	
1b. Two are not fixed and have a thumb screw that can be used to adjust the limit position.	
2. The movable limits should be adjusted every time you set up a new grip arrangement.	

Bottom limit: - Once the load cells and all accessories have been fixed to the machine, move the cross member so the grips are close together, but not touching. Slide the lower limit switch underneath the metal limit arm. This will stop the machine going past this point and stop the grips crashing together.	
Top limit: - This can be set anywhere between the upper fixed limit and the crossmember limit safety arm that engages the automatic stop. You may only use the upper adjustable limit if you are trying to limit the extension of a specimen beyond a specific distance or using a bespoke tool arrangement. This is to ensure the machine stops before potentially colliding with the top of the machine.	
3. If the machine is running and hits the limit switch, a warning will appear across the top of the screen and advise the test has been aborted due to limit being reached. Stop the test and then jog the crossmember away from the limit the instrument has reached.	

14. Installation of Load Cells and Jaw Schemes

Before using Titan and TestWise together, you must configure TestWise with the Load Cell and Jaw Schemes data. This only needs to be completed once.

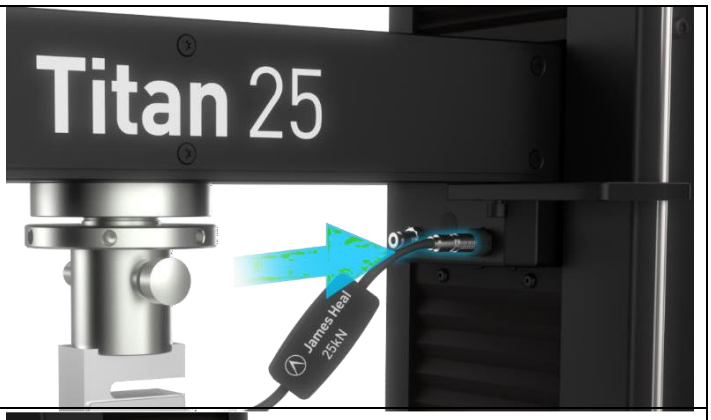
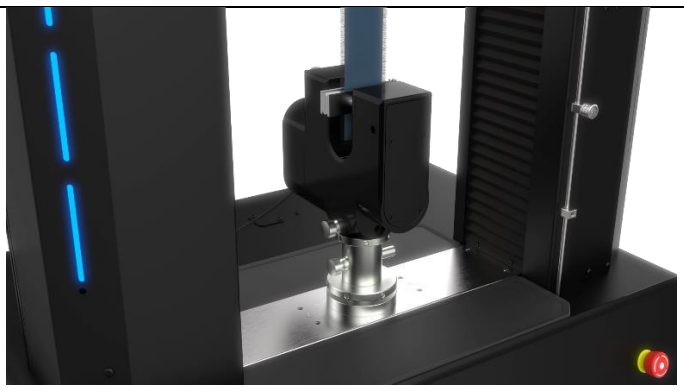
1a. Connect the Titan to power and switch on. 1b. Insert the licence dongle to the PC. 1c. Connect the Titan to the PC using the USB cable.	 
2. Double click on the TestWise icon on your desktop.	
3. While the application loads, the screen in the image will be displayed.	
4. This is the first run screen. Once the procedure is completed it will not be shown again. Click the **Start Upload** button to begin the upload of configuration data from Titan.	
5. The upload of loadcell calibration data and jaw scheme data commences. This usually takes less than 10 seconds.	
6. Setting up a new user is detailed in the TestWise Software Guide.	

Click the **Continue** button to begin using TestWise.	
8. TestWise main screen will then be displayed.	

15. Tooling Installation Quick Start Guide

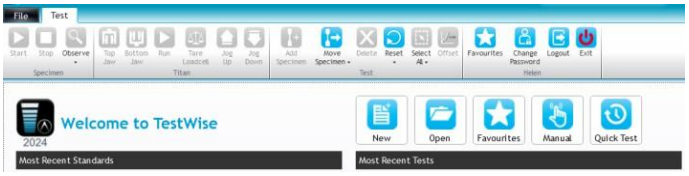
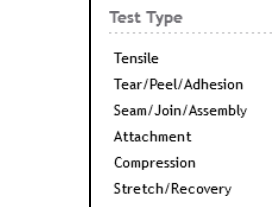
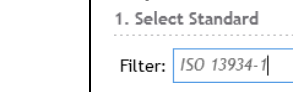
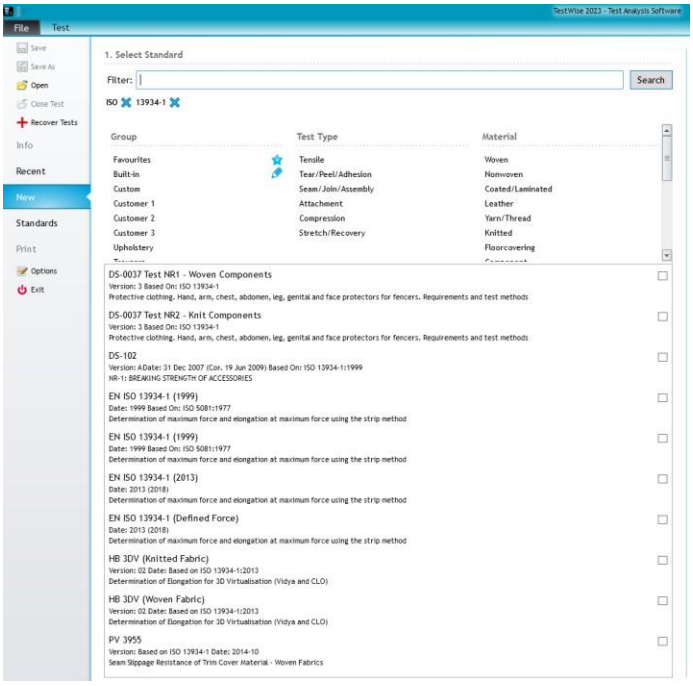
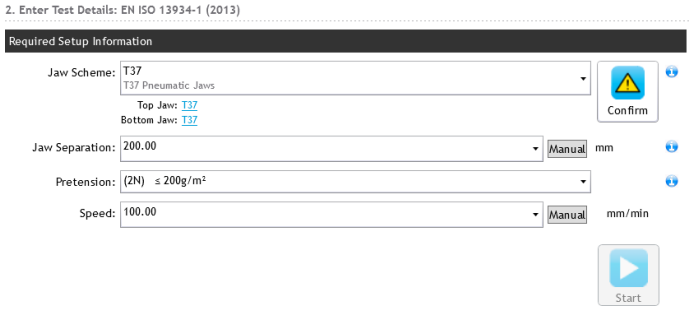
Before the machine can be used for testing, it must have load cells and grips attached. This is a quick guide to attaching them to the instrument. For further information on specific grips, see the accessories guide.

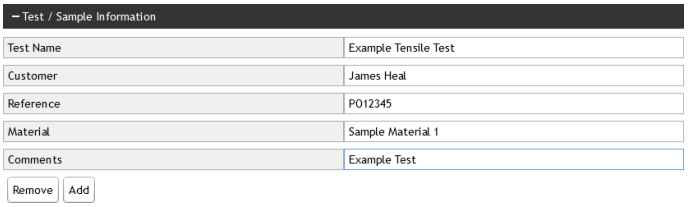
1. The machine will be shipped with a permanent pin and post fixed to the crossmember and base plate of the machine. The Titan 10 and 25 will have a different sized bottom pin and post size. Titan 10 = 20mm Titan 25 = 31.8mm	
2. Load cells are sent as full assemblies. These can then attach directly to the pin and post as shown in the image.	

3. A cable comes out of the load cell which must be plugged into the machine for it to work.	
4. Each load cell has a pin and post for grips to be fixed to. The pin and post depend on which size load cell is being used.	
5. The grip is connected to the machine by inserting the post into the hole and sliding the pin all the way through the hole in both the post on the machine and the grip.	
6. In the same way, the grip is placed onto the pin and post on the bottom of the machine and the pin is slid through the holes.	

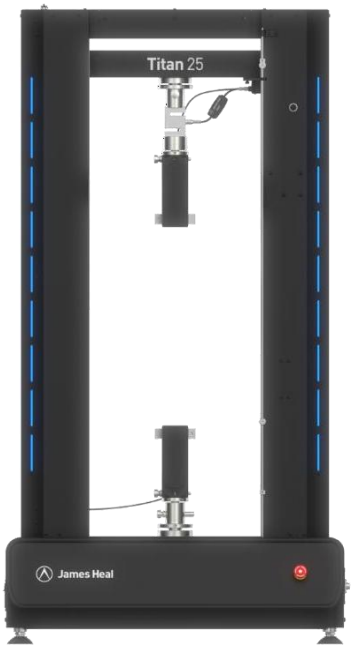
16. TestWise Quick Start Guide

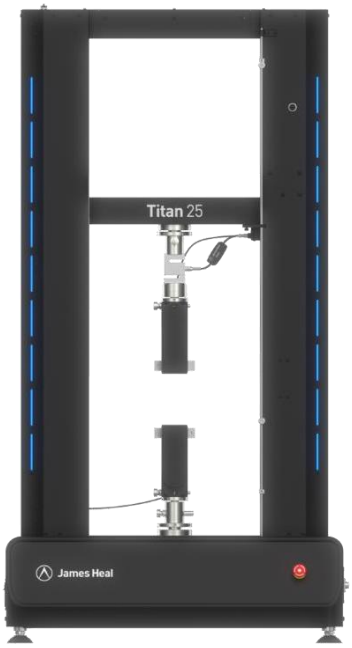
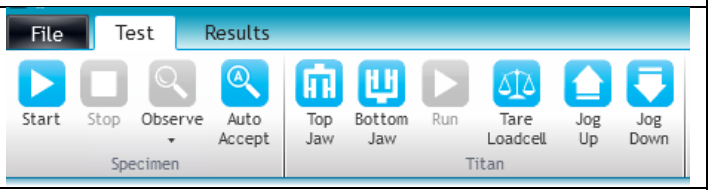
The Quick Start Guide will guide you through the essential features and steps to carry out a test on the Titan machine. For a more detailed guide to using TestWise, for any trouble shooting issues or key features of the software please see our TestWise Software Guide. To find out which grips and jaws are recommended for specific standards or to learn how to use them on our Titan, please see our Titan Accessories Guide.

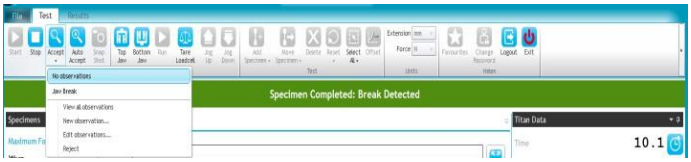
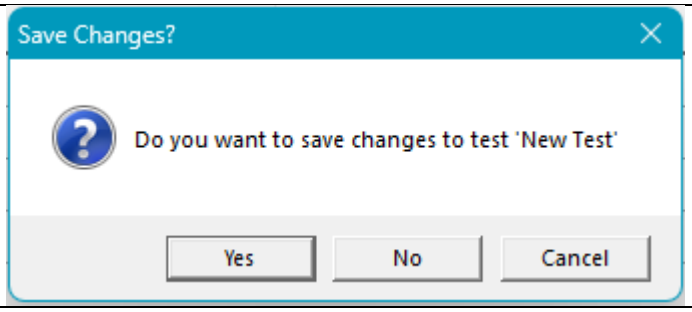
1. Login to TestWise. Click the New button to start a test. 	
2. Select the Standard to test to. Use the search filters to locate the Standard you require.  Or type the Standard you require into the Filter box.  In this example, we will select BS EN ISO 13934-1 with a 200mm Jaw Separation.	
3. Select a suitable Jaw Scheme, in this case T37. **IMPORTANT** – Select the Jaw Scheme fitted to the machine. If they do not match the Jaw Separation will be incorrect and damage could occur to the machine.	

Click the Confirm button to enable the machine to start. 	
4. Enter details which describe the sample. This information will be stored with the test results and printed on the test report. These fields can be left blank and populated at any time via File > Info > Edit.	
5. To commence the test, click Start.	

The machine will now be setup ready for the specimen to be inserted before testing.

1. The Load Cell and any accessories will move to the top of the machine.	

2. The same setup will now return to the test position, in this example, 200mm apart.	
3. Press the Start button to initialise the test.	
4. Place the specimen into the jaws and close. In this example, place the fabric into the top jaw and close, then without tensioning place into the bottom jaw.	
5. Pneumatic Jaws (T37) can be opened or closed by: - • Clicking Top Jaw and Bottom Jaw on screen • Pressing F3/F2 on keyboard • Pressing Titan Start Button once	

• Pressing the Foot Pedal For use of other grip/ jaw combinations please see our Accessories Guide.	
6. Click Run or press F9 on the keyboard to start the test. For the full list of Function Keys, please see our TestWise Software Guide.	
7. The test result now needs to be confirmed with or without observations to move onto the next specimen. Each test specimen can be accepted or rejected.	
8. When all specimens have been tested a green banner display "Test Completed". To see all specimen results calculated together click the View Results button on the banner.	
9. The Close button will close the test report, select Yes, No or Cancel to save any results.	

Congratulations, the first test using TestWise and Titan has been completed.

17. Inspection, Testing and Maintenance.

Maintenance and Calibration

Note: All operators should familiarize themselves with this manual before using the equipment.



Safety Screen/Guards
Do not remove any safety screens/guards or bypass the safety systems of the instrument.

Moving Components
Moving components such as the crossbeam and clamping jaws 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.

Working Area
Do not allow general access to instrument. Only competent and trained personnel should operate the equipment.
The instrument should be in a controlled area where only authorised personnel have access.



Warranty
Do not attempt to gain access to the internal workings of the Instrument without authorisation from James Heal Service & Calibration.

If the instrument is tampered with this will invalidate the warranty.

Maintenance
The instrument has no routine user maintenance points.

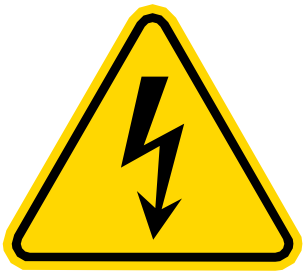


All internal moving parts are designed not to require cleaning or additional lubrication under normal circumstances.

Maintenance should only be carried out by trained/competent personnel.

	Calibration Calibration should only be undertaken by suitably trained service personnel using specialist equipment.

Electrical Isolation

	Always isolate the instrument from the electrical supply and USB connections before carrying out authorised work on the instrument. ins Access to the electrical mains power switch must not be obstructed. Any maintenance, servicing or adjustments must only be carried out by suitably skilled or properly instructed/supervised personnel.

Cleaning Instructions

	**Personal Protective Equipment (PPE)** Appropriate Personal Protective Equipment (PPE) must be worn to prevent eye damage when cleaning the instrument.
	**Cleaning** Cleaning should only be carried out by trained/competent personnel. Clean the instrument and test area using a soft brush and vacuum to remove fibres & test debris. Do not use any liquids or harsh abrasive materials.

18. Service, Calibration & Support

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 precisely provide 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 following the web-link to our support system.

In all communications, please quote the serial number of your instrument, the firmware version number and the software version number. These can be found on the instrument serial number label or the initial screen of the software.

E.g., Serial Number: 2310/XX/XXXX Version: X.X.XXXX.XXXXX Firmware: vX.pX

Contact:
If you require support technical or service and calibration support please complete the online contact form and a member of our team will get in touch.
www.jamesheal.com/contact-us



You can also submit a technical support ticket here.
www.customercare.pptgroup.com/en/knowledge/kb-tickets/new

Service & Calibration

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

19. Accessories and Spares List

Instrument Spares	Quantity per code	Stock code
4mm inside Ø, 6mm outside Ø - Black Polyurethane Tube for Instrument + Grip Pneumatic Connection	Specify length	327-245
Power inlet fuse 20mm 5A T-type ceramic fuse	1	130-820
2m USB Cable	1	154-184
Mains Lead Set Angled (US, EURO, UK)	1	142-326
Instrument Accessories		
2310/25 Handheld Controller	1	794-804
Footswitch	1	144-627
Instrument Jaw Spares		
4x T27 Rubber Lined Jaw Faces 100x30mm	1 pack	794-930
4x T27 Rubber-Lined Faces 75 x 25mm	1 pack	794-924
2x T27 Rubber-Lined Faces 25 x 25mm	1 pack	794-925

20. Fault finding, trouble shooting and repair

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. Check power cable fuse. Check instrument power inlet fuse.
No communication with computer	USB connection	Ensure the USB cable is connected to the instrument & the computer. Ensure the instrument is switched on. Ensure the computer USB port is functioning correctly, test with a different device (USB drive or printer etc).
Jaw separation incorrect	Incorrect setup	Confirm the correct jaw type is fitted to the instrument & selected in the test setup. *Incorrect jaw selection can result in jaw collision and damage to the instrument.*
Jaws do not close	Air Supply, Incorrect jaw type selected	Ensure the air supply to the instrument is connected & switched on. Ensure the air supply pressure is set to 8 bar/800kPa/116PSI. Confirm the correct jaw type is selected in the test setup.
Sample slipping through jaws	Air supply/capacity, Jaw face condition, Insufficient manual pressure	Ensure the air supply pressure is set to 8 bar/800kPa/116PSI at 11lt/min (2.9 US gpm). Check the jaw faces are not worn or damaged, replace the faces if necessary. Tighten the manually positioned face (depending on jaw type).
Inaccurate/unexpected results	Jaws loose, Jaw face condition	Ensure the loadcell, jaws & jaw faces are fitted correctly & tightened where appropriate. Check the jaw faces are not worn or damaged, replace the faces if necessary.
Test Stopped and cannot be started	Emergency-stop activated	Deactivate the emergency-stop (red button) by twisting the button. The computer screen should also indicate that the e-stop is engaged.

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.