

TITAN⁵ UNIVERSAL STRENGTH TESTER



AT JAMES HEAL WE DON'T DESIGN INSTRUMENTS, WE CREATE SOLUTIONS

Setting the Standard

We listen intently to textile technologists, engineers, software designers and most importantly to you.

Adding our expertise and ability to innovate, we strive to produce the most desirable, intuitive and productive testing machines in the world.

Not only do our machines do what we say, but they also look and feel good and are really easy to use.

Our unique product signature makes our instruments stand out, enhancing the appearance of your laboratory and creating

Titan⁵ Universal Strength Tester

Titan⁵ is an outstanding fifth generation Universal Strength Tester, designed specifically for testing textiles, nonwovens, and leather products - whether they are in the form of yarns, fabrics, garments or attachments to garments. The instrument is easily adapted for testing other materials like paper and plastics.

Innovative, precision engineering and an intuitive understanding of a user's requirements are combined in an aesthetically pleasing and ergonomic instrument. The TestWiseTest Analysis Software has a Microsoft Windows look and feel and utilises familiar textile terminology. confidence in the minds of your customers.

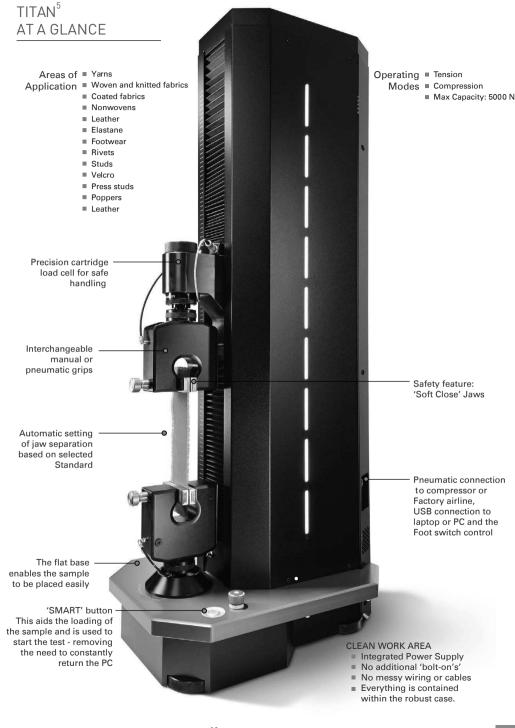
Never willing or content to accept the ordinary, we challenge continuously and set the standard.

Brand values of Precision, Pedigree, Innovation, Leadership and Integrity guide our efforts to provide cost effective and attractive solutions for your testing needs.

You can count on James Heal to supply you with equipment and services of the highest standard and to complete every job to a level, which will exceed your expectations.

A choice of 5 different load cells (up to 5000 N capacity) are available together with a comprehensive range of manual and pneumatic grips. Titan⁵ is programmed with an extensive library of national and international standards as well as retailers' test methods. If you have something unexpected to test, the 'Standards Editor' makes it simple to modify existing test methods or to create new ones.

Helping you to make the most of your investment, the Software Maintenance and User Support Package provides online access to our applications engineers and includes one major software update every year.



"COMBINING EXPERTISE WITH INNOVATION TO CREATE EXTRAORDINARY TESTING SOLUTIONS"



THREE CLICKS TO START TESTING

TESTWISE SOFTWARE

TestWise is specially developed test analysis software that complements the Titan⁵.

TestWise combines a simple user interface and comprehensive analysis functionality.

Developed by a James Heal software specialist this is intuitive software designed for the quick and effective administration of testing procedures.

STANDARDS

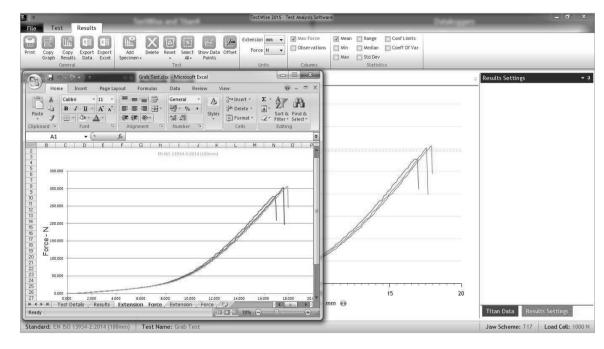
TestWise incorporates an ever expanding library of pre-loaded standards and test methods, and the Standards Editor enables users to create their own Standards to meet specific needs and customer requirements.



Standards can be easily located through a 'Filter' option, and regularly used Standards can be saved within 'Favourites' for instant access.

AUTOMATIC SET UP

TestWise transfers the test parameters, specified in the selected standard, to the instrument for automatic set up.



EXPORT TO EXCEL - NEW FEATURE

This new feature offers the full export of data to Excel with an automatic graph creation facility. This function enables the user to create their own custom analysis and statistics.

RESULTS

TestWise offers customisable statistical reporting, meaning the user gets exactly what they need, Specimen test results include a current mean value, allowing for immediate visability of trends. Real time presentation of Time, Extension and Force values allows monitoring of results during testing.

AUTOSAVE - NEW FEATURE

The TestWise software has an autosave function active throughout the testing so in the event of a power failure test data is not lost but can be recovered.



THE BENEFITS OF TESTWISE

- The TestWise menu bar gives easy access to all features
- The user interface has the familiar look and feel of Microsoft Office
- Single integrated application with no modules or additional costs
- TestWise has been optimised to run in Windows 7, Windows 8 and Windows Vista
- Runs in 32-bit or 64-bit Windows
- Connection to Titan⁵ is via USB
- Customisable statistical reporting you get just what you need
- Automatic adjustment of test parameters, including gauge length, according to the Standard
- Specimen test results including current mean value allow immediate visibility of trends
- Testing in just three clicks of the mouse
- Real-time Graphing Area with Auto-Scaling and Zoom Control
- Real-time presentation of Time, Extension and Force values allows monitoring of results during testing
- Extensive Standards Library and Standards Editor allowing the creation of user-defined Standards
- Auto-Save function means data is never lost

TITAN TOOLING

T4 Button Holder (used with T27)



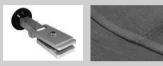
- · Testing buttons to destruction
- · Security of attachment of buttons
- Integrated debris shield
- Typical standards: BS 4162, M&S P122 and NextTM37



T5 Pneumatic Yarn Grips (pair)

- Testing strength of yarn
- Maximum force: 120 N
- Aluminium jaw faces (plain)
- Optional ABS jaw faces (corrugated) Standards: ASTM D2256, EN ISO

T8 Needle Clamps - Apparel Version T9 Needle Clamps - Upholstery Version T12 Attachments Kit (used with T27)



- For apparel fabrics
- Seam slippage test (without sewing)
- Standards: EN ISO 13936-3
- T13 Pile Loop Extraction Kit



- · For extracting loops from Terry Tow-
- Standards: EN 15598

T18 Loop Bars (pair)



- Stretch and recovery tests
- Specimens up to 125mm wide
- 4mm, 6.5mm, 8mm, 10mm and 13mm Ø bars
- Standards: BS 4952 (withdrawn), BHS 15J, EN 14704-1 (Method B), ASTM D4964, Adidas 4.27



· For upholstery fabrics

IOS-PRG-0023

• Seam slippage test (without sewing)

T14 Zip Testing Kit (used with T27)

Testing strength of zip elements

Standards: BS 3084, ASTM D2061,

Wide range of grips included

T19 Checkweight Set

EN16732

cells

Standards: EN ISO 13936-3, IKEA

2062



· Complementary gripping system for use with T12

• Testing security of attachments to

Standards: EN 71-1, M&S P115,

M&S P124 and NextTM42,TM45 and

garments

TM46

threads

T20A Ball Probe

Used with T20A Clamp

D6797, and WSP 110.5

separately

Operates in compression mode

Standards: ASTM D751, D3787,

Ball Probe only, order T20A-Clamp

Range of grips

Pneumatic lower clamp

 OctoGrip has 8 claws for gripping small attachments

T20A Clamp for Ball Burst and Puncture Tests



- · Ball burst test for fabrics. Operates in compression mode
- Clamp only, order Ball Burst and
- Puncture probes separately Standards: ASTM D751, D3787, D6797, and WSP 110.5

T22 Hank Bollards / Skein Spools



- Manually operated grips Used for test Strength, Seam, Tear
- Used for CSP

& Skeins

- Full width jaw faces 25 mm2 Maximum force: 5000 N
- Standards: ISO 6939 and ASTM

T25 Manual Yarn Grip (pair)



- · Testing strength of varn
- Maximum force: 1000 N
- Maximum diameter: 6mm Ø
- Maximum force: 1000 N Standards: ASTM D2256, EN ISO 2062

• Testing strength of yarn, cords and



- To test products such as cork flooring, packaging and other sheet materials
- Standards: ASTM D1894, DIN 53375, ISO 9295 and TAPPI T549

T20B - Screwdriver Puncture Attachment T21 C-Clamps (pair)

- Used with T20A Clamp
- Operates in compression mode • Screwdriver Puncture Probe only.
- orderT20A-Clamp separately

and Adidas 4.27

• 8mm and 10mm Ø bars

Standards: EN14704-1 (Method B)



- · Suitable for testing buttons and tack-buttons (studs)
- Standards: BS 7907 and forthcoming EN standard

T26 Bra Wire Penetration Tool (used

- To test puncture resistance of Bra Wire casing
- Standards: M&S P11A, NextTM36. Pacific Brands PB-002 and H&M DS-12

T27 Universal Pneumatic Fabric



 Strength, seam slippage and tear tests

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Maximum force 5000 N

Recommended for regular user

Not to be used for calibration

checks of the accuracy of the load

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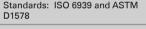


- Standard: ASTM D751

T23A Manual Fabric Grips (5kN)



- To test the strength of Yarn in Hanks tests



• Recommend using with 5000N load cel





- For the testing of leather items -
- Handbags, shoes, etc · For use with ISO 3377-2 - Leather -Determination of tear load - Part 2: Double edge tear
- Also suitable for IUP 8 and M&S P35



TITAN APPLICATIONS

The applications for the Titan⁵ are numerous. A selection some of the diverse range of tests, with the relevant tooling and grips, is shown below.

Fabric Strength Test (T27)





Tear Strength Test

(T27)

Stretch & Recovery Test (T27)

Seam Slippage Test (T27)



Baumann Tear



Strength



Hank (Lea) Strength



(T20Å)

Compression Test

Compression Test (T20B)

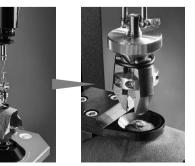


Security of Attachments Test (T12)



Button Strength (T4)



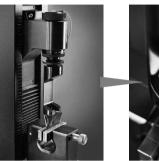


TITAN APPLICATIONS

Octogrip



Stud Strength (T14)





Puncture Test (T13)



Line Contact

Coefficient of Friction







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TITAN⁵ COMBINING PRECISION, FLEXIBILITY AND EASE OF USE

Installation and commissioning service

We offer an optional installation and comissioning service, where our engineer will unpack, position and connect your new Titan⁵ to electrical and air supplies. He will also install TestWise Software on your PC or laptop and ensure the entire system works perfectly.

Training will equip your laboratory technician with the confidence to start testing products, and more advanced training from a textile technologist is offered as a seperate service either on your site or at James Heal in Halifax, England.



Contractual maintenance and calibration

The load cells should be calibrated once a year to confirm continuing accuracy. Our instrument techinicians are accreditied by UKAS, recognised worldwide as a leading calibration authority, and calibration procedures comply with ISO 17025. Comprehensive certificates of calibration are issued to confirm the calibration of the load cells to satisfy your own accreditation requirements, whether based on your Quality Management System, your customers or independent accrediting organisations.



Software maintenance and user support

There is a continuous development programme for the TestWise Analysis Software, so that new Standards and test methods, as well as improved functionality, are being added. You can keep your own software and Standards Library up to date by subscribing to our Software Maintenance and User Support Scheme. For an annual subscription, you receive the following:

- Minimum of one software upgrade per annum
- Online Applications and Support (three one hour sessions per year)
- The opportunity to supply your own ideas and contribute to the future development of the software

INSTALLATION REQUIREMENTS

Power		Compressed Air Supply					
110-230V±10%	50/60 Hz	Working Pressure:	7-10 bar, 700-1000 kPa, 100-145 psi				
Single Phase		Minimum Flow:	17 litres per minute				
Watts:	750W	Filtration:	5 microns or better to remove oil and moisture				
amps:	5A	Pipe Outlet:	4mm				
		Air Regulator:	Not Required - Built into Titan				

Electrical supply should be free from spikes and surges exceeding 10% of the working voltage.

TITAN⁵ standards

Standards Library

Titan⁵ and TestWise have been developed based on a wide variety of national and international Standards and retailer test methods. Even if the Standard you want to work with is not on this list, we can normally develop it easily and add it to the Standards Library. Do not be afraid to ask, in most cases the development process is simple.

Attachments		Peel Bond / Delamination	Peel Bond / Delamination							
ASTM D2061	GB 6675	ASTM D2724	EN ISO 2411							
ASTM D4846	ISO 8124	ASTM D5170	JIS L1085							
ASTM D7142	JTA 8T 2012	DIN 54310	M&S P13							
ASTM F963	M&S P115 series	EN ISO 11644 (IUF 470)	M&S P13A							
BS 3084	M&S P122	Seam Strength & Seam Slip	page							
BS 4162	M&S P124	ASTM D1683	EN ISO 13935-1							
BS 7907	NextTM37	ASTM D4034	EN ISO 13935-2							
BS 8510	NextTM42	ASTM D434	EN ISO 13936-1							
EN 15598	NextTM45	ASTM D5822	EN ISO 13936-2							
EN 16732	NextTM46	GB/T 2660-2666	M&S P12							
EN 71-1	UNE 40902	GB/T 14272	M&S P12A							
Compression		GB/T 18132	M&S P12B							
ASTM D3787	EN 14704-2	EN ISO 13933-3	M&S P12C							
ASTM D4830	EN 388	NextTM16 series								
ASTM D5748	EN 71-1	Stretch and Recovery (Cycli	c)							
ASTM D6797	ISO 3303	ASTM D4964	FZ/T 70006							
ASTM D751	ISO 9073-5	ASTM D6614	JIS L1096							
EN 12332-1	WSP 110.5	BS 4952	M&S P14 series							
Tear Strength		DECATHLON DS-275	M&S P15 series							
ASTM D2212	EN ISO 13937-2	EN 14704-1	NextTM21 series							
ASTM D2261	EN ISO 13937-3	FZ/T 70005								
ASTM D2724	EN ISO 13937-4	Fabric Strength								
ASTM D5587	GB/T 2711	ASTM D5034	ISO 9073-3							
ASTM D5735	JIS L1096	ASTM D5035	JIS L1096							
BS 3424: Part 5	NextTM25	EN ISO 13934-1	M&S P11							
EN ISO 11644 (IUF 470)		EN ISO 13934-2	M&S P11A							
Yarn Strength		EN ISO 1421	M&S P11B							
ASTM D1578	EN ISO 2062	GB/T 3923.1	M&S P11C							
ASTM D2256	ISO 6939	GB/T 3923.2	M&S P43							
GB/T 3916	M&S P70	ISO 3376 (IUP 6)	NextTM27							
BS1932-2		ISO 5081 & ISO 5082	NextTM36							

Standards Library



TestWise includes a "Standards Editor" which allows you to customise existing Standards and create new ones which meet your more specific requirements. Once a new standard has been created it is available and ready for use in the Standards Library. We keep the Standards Library up to date with current Standards but it also contains many older Standards which may have been superseded although they are still widely used in industry.

If you are a retailer and would like James Heal to develop a suite of Standards for Titan⁵ then we would be pleased to create them for the benefit of your suppliers. Please contact us for more details.

TITAN⁵ technical data

Measuring Drinsinley	Constant Data of Extension (CDE)						
Measuring Principle:	Constant Rate of Extension (CRE)						
Capacity (Tension & Compression):	5000 N, 5kN, 500kgf and 1100lbf						
Load Cells:	Three (3) load cells can be configured from a choice of five (5): 5000 N 1,000 N or 500 N (not 1000N and 500N) 100 N or 200 N (not 200N and 100N) Quick-change cartridge, auto-recognition "S" beam cells						
Test / Return / Jog Speed:	1 - 2000mm/min						
Accuracy of Load Cells Class:	0.5 (±0.5%) from 2 - 100% of load cell capacity						
Speed Accuracy:	±0.005%						
Maximum Stroke:	560mm - Maximum usable extension with T27 jaws fitted						
Total Vertical Stroke:	700mm - Maximum movement of the head between limit switches when no jaws are fitted						
Positional Accuracy:	± 0.00125mm						
Calibration:	Load Cells: ISO 7500-1 (UKAS accredited) & ASTM E4 Instrument: ISO 7500-1 & ASTM D76						
Safety:	CE marked (complies with Machinery, Low Voltage & EMC Directives)						
Warranty:	18 months						

DIMENSIONS

Height (mm)	Width (mm)	Depth (mm)	Approx. Weight (kg)
1339	400	568.5	82*
			*Excludes transit frame

COMPUTER SPECIFICATION

Personal Computer (PC) - Minimum Specification							
PC	Personal Computer (PC) running Microsoft Windows The use of the operating systems running in Windows as a VM is not supported						
Processor	As specified or required by the operating system (OS)						
RAM	As specified or required by the operating system (OS)						
OS	Windows 8, Windows 7, Windows Vista Not compatible with Windows XP Microsoft.NET 4.0 framework is required (included on disc)						
Monitor	Minimum resolution of 1024x768 pixels						
HDD	Minimum 250GB						
Ports	At least 2 free USB 2.0 ports						
Printer	Any Windows compatible printer Colour printer recommended but not essential						

ORDERING IS MADE EASY WITH THIS SELECTOR TABLE

WITH THIS SELECTOR TABLE LECEND Essential / Recommended User Choice dependent on Applications MODEL 1410	STOCK CODE	Fabric Tensile	Yarn Strength and Te	Seam Slippage	Security of Attachmer	Zip Testing	Button Strength	Pile Loop Extraction	Tear Strength	Peel Bond / Adhesior	Stretch & Recovery	Ball Burst	Puncture	Leather Testing	Friction Testing
Titan ⁵ - Universal Strength Tester 110-230V 50/60Hz	904-506		•	•	•	•	•		•	•	•	•	•	•	•
SOFTWARE	304-308														
TestWise Test Analysis Software	794-896		•	•	•	•	•	•	•		•				•
TestWise Test Analysis Software Maintenance & User Support Package															
1 year subscription	206-001														
2 years subscription	206-002														
3 years subscription	206-003														
CARTRIDGE LOAD CELLS	_					_	_		_						
Load Cell L8 (5000N) 5000N - 50N (500kgf - 5kgf) Load Cell L9 (1000N) 1000N - 10N (100kgf - 1.0kgf)	794-730 794-704		-			_	-					_			
Load Cell L9 (1000N) 1000N - 10N (100kgf - 1.0kgf) Load Cell L11 (500N) 500N - 5N (50kgf - 0.5kgf)	794-704														
Load Cell L10 (200N) 200N - 2.0N (20000gf - 200gf)	794-705	-													
Load Cell L12 (100N) 100N - 1.0N (10000gf - 100gf)	794-707											_	_		
CALIBRATION															
ISO Certificate of Calibration for Titan (Machine Only) *	201-928													•	•
UKAS Certificate of Calibration for Titan 5000N Load Cell (9 point calibration in tension)	202-531	۰				•	•								
UKAS Certificate of Calibration for Titan 5000N Load Cell (9 point calibration in compression up to 3000N only)	202.532					-	-					•			_
UKAS Certificate of Calibration for Titan 1000N Load Cell (9 point calibration in tension)	202-534			•	•		•					•	•		
UKAS Certificate of Calibration for Titan 1000N Load Cell (9 point calibration in compression) UKAS Certificate of Calibration for Titan 500N Load Cell (9 point calibration in tension)	202-535 202-537		•		•		•		•		•		-	•	•
UKAS Certificate of Calibration for Titan 500N Load Cell (9 point calibration in compression)	202-538	-	-	-	-	-	-		-	-	-	•	•		
UKAS Certificate of Calibration for Titan 200N Load Cell (9 point calibration in tension)	202-540		•	•	•	•	•		•	•	•			•	•
UKAS Certificate of Calibration for Titan 200N Load Cell (9 point calibration in compression)	202-541											•	•		
UKAS Certificate of Calibration for Titan 100N Load Cell (9 point calibration in tension)	202-543														
UKAS Certificate of Calibration for Titan 100N Load Cell (9 point calibration in compression)	202-544														
GRIPS & FIXTURES							-	- 1							
T27 Universal Pneumatic Fabric Grips (pair)	794-927	•		•	•	•	•	•	•	•	•			•	•
2 line contact jaw faces 100 x 6mm diameter and 2 plain steel jaw faces 100 x 30mm	794-877 794-929													\vdash	
2 line contact jaw faces 75 x 6mm diameter and 2 plain steel jaw faces 100 x 30mm T4 Button Holder (used with T27)	794-864						•								
T5 Pneumatic Yarn Grips (pair)	794-806		•				-								
T8 Needle Clamp [Apparel Version] (used with T27)	794-686			٠											
T9 Needle Clamp [Upholstery Version] (used with T27)	794-687			•											
T12 Attachments Kit (used with T27)	794-866				•										
OctoGrip	794-867				٠										
T13 Pile Loop Extraction Kit (used with T27)	794-844					-		•						$ \vdash $	
T14 Zip Testing Kit (used with T27) T15 Pneumatic Yarn Grips (pair)	794-879 794-883		•			•								\vdash	
T18 Loop Bars (pair)	794-889		-								•				
T19 Check Weight Set	794-891										-				
T20A - Clamp for Ball Burst and Puncture Tests	794-894											٠	٠		
T20A - Ball Probe	794-895														
T20B - Screwdriver Puncture Attachment	794-839												٠		
T21 C-Clamps (pair)	794-838										•			$ \rightarrow $	_
T22 Hank Bollards / Skein Spools	794-602 794-920	_	•	_	_	_	_	_	_						_
T23A Manual Fabric Grips (5kN) T24 Button & Stud Holder (used with T27)	794-920							_	-						
T25 Manual Yarn Grips (pair)	794-931						-								
T26 Bra Wire Penetration Tool (used with T27)	794-932												•		
T28 Coefficient of Friction Fixture	794-936														•
GRIPS FOR LEATHER															
Baumann / Slit Tear Clamps	794-885												•		
ASTM Slit Tear Clamps	794-882									\vdash			•	\vdash	
Adhesion of Finish Kit Leather Ball Burst	794-886 794-887												•		
COMPRESSORS (used with T5, T12, T15 and T27)	//34400/														
Titan Compressor 230V 50Hz	783-218														
TruBurst Compressor 230V 50Hz	783-217								1						
Dual User Compressor (Titan and TruBurst) 230V 50Hz	783-219														
Titan Compressor 110V 60Hz	783-221														
TruBurst Compressor 110V 60Hz	783-220														
Dual Use Compressor (Titan and TruBurst) 110V 60Hz	783-222														
President ICO 7000 1 Arrest A and ACTA D70															

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TESTING INSTRUMENTS

High precision textile testing instrumentation

TEST MATERIALS

Guaranteed fit-for-purpose test materials for textile testing procedures

SERVICE AND CALIBRATION

Worldwide installation, maintenance and calibration service

TECHNICAL ASSISTANCE

Expert engineering and applications support



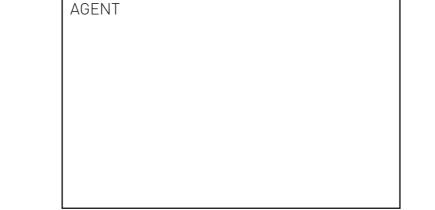


A world wide presence

James Heal has Agents and Distribution Partners in over 60 countries. Please visit our website www.james-heal.co.uk, for more information and contact details for your local James Heal Agent.

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