

# Titan Range

## 5kN and 10kN UNIVERSAL STRENGTH TESTERS

For Tension and Compression Testing now with capacity to accommodate tests up to **10000 Newtons (10kN)**.

5kN	MODEL NUMBER: 1410	STOCK CODE: 904-506
10kN - 230V	MODEL NUMBER: 1710	STOCK CODE: 904-507
10kN - 110V	MODEL NUMBER: 1710	STOCK CODE: 904-509
	TESTWISE™ SOFTWARE	STOCK CODE: 794-896



### KEY BENEFITS

#### INCREASED CAPACITY - 10kN

Our Titan range can accommodate tests with load cells ranging from 100N to 10kN.

#### DUAL COLUMN - LARGE SAMPLES

This dual column, crosshead instrument creates opportunities to test larger samples across a full range of tests.

#### HAND-HELD CONTROLLER

Enables 'at instrument' control for easy sample loading especially useful when positioning and gripping specimens of variable or irregular size.

#### MANUAL CONTROL

The flexibility to enable the operator to control the instrument manually.

#### INTERCHANGEABILITY

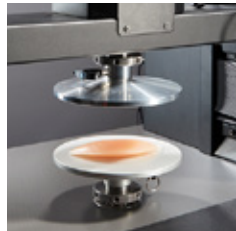
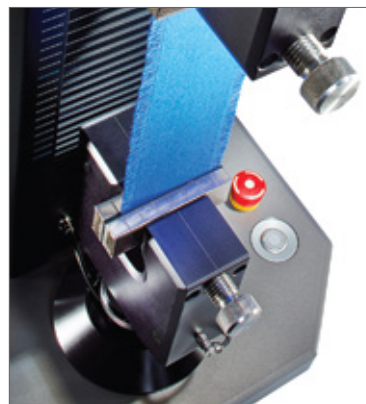
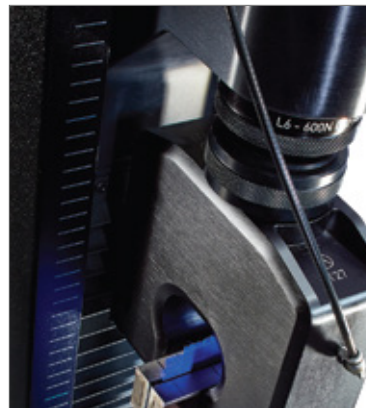
The large array of grips and load cells can be used on both Titan5 and Titan10.

#### EASE OF USE

Automatic parameter set-up, the hand-held controller, quick change load cells and quick change jaw faces increase efficiencies and laboratory through-put.

#### CUSTOMISED STANDARDS

Along with over 500 pre-loaded standards, TestWise 2017 allows the user to customise and save their own standards.



# TITAN10 AT A GLANCE

## AREAS OF APPLICATION

- Yarns
- Woven and knitted fabrics
- Coated fabrics
- Nonwovens
- Leather
- Elastane
- Footwear
- Rivets
- Studs
- Velcro
- Press studs
- Poppers
- Industrial yarns
- Upholstery
- Uniforms
- Luggage
- Handbags
- PPE clothing
- Zips
- Industrial Ropes
- Straps
- Tapes
- Trainers
- Shoes
- Yarn

## INTERCHANGEABILITY

The large array of grips and load cells are interchangeable between Titan5 and Titan10

## SOFT CLOSE JAWS

When loading a sample, the jaws will initially apply very light pressure, sufficient to grip the sample but not to cause damage to fingers

## MANUAL CONTROL

Flexibility to allow the operator to control the instrument manually through the hand-held controller, the SMART button or on the screen



## CAPACITY - 10kN

Bench top, universal strength tester offers laboratories the opportunity to increase the diversity of product and scope of tests that can be accommodated with load cells ranging from 100N to 10kN

## DUAL COLUMN

Dual column, crosshead instrument to test larger samples across a full range of tests including tension, compression, stretch and recovery, tear, peel, adhesion and other applications

## QUICK CHANGE LOAD CELLS

The potential to increase efficiencies and laboratory through-put

## QUICK CHANGE JAW FACE

Changing the jaw faces is tool free and is a very simple and efficient process

## AUTOMATIC JAW SEPARATION

The jaw separation is automatic and the distance calibrated.

The process is repeatable and precise as human error is eliminated from this operation

## HAND-HELD CONTROLLER

Enables 'at instrument' control for effortless sample loading.

Especially useful when positioning and gripping specimens of variable or irregular size

## AUTOMATIC PARAMETERS SETUP

TestWise automatically sets up the test parameters of the selected Standard.

## CUSTOMISED STANDARDS

Along with over 500 pre-loaded standards, TestWise 2017 allows the user to customise and save their own standards

Time to start the test is reduced, and as the parameters are preloaded, human error is eliminated. Increased accuracy and reliability is achieved

# TITAN5 AT A GLANCE

## AREAS OF APPLICATION

- Yarns
- Woven and knitted fabrics
- Coated fabrics
- Nonwovens
- Leather
- Elastane
- Footwear
- Rivets
- Studs
- Velcro
- Press studs
- Poppers
- Industrial yarns
- Zip
- Industrial Ropes
- Straps
- Tapes
- Trainers
- Shoes
- Yarn
- PPE

## INTERCHANGEABILITY

The large array of grips and load cells are interchangeable between Titan5 and Titan10

## SOFT CLOSE JAWS

When loading a sample, the jaws will initially apply very light pressure, sufficient to grip the sample but not to cause damage to fingers

## MANUAL CONTROL

Flexibility to allow the operator to control the instrument manually through the SMART button or on the screen

## SAMPLE LOADING

The flat base enables the sample to be placed easily



## CUSTOMISED STANDARDS

Along with over 500 pre-loaded standards, TestWise 2017 allows the user to customise and save their own standards

## CAPACITY - 5kN

Bench top, universal strength tester offers laboratories the ability to test products for a wide range of test with load cells ranging from 100N to 5kN

## SINGLE COLUMN

Single column to test samples across a full range of tests including tension, compression, stretch and recovery, tear, peel, adhesion and other applications

## QUICK CHANGE LOAD CELLS

The potential to increase efficiencies and laboratory through-put

## QUICK CHANGE JAW FACE

Changing the jaw faces is tool free and is a very simple and efficient process

## AUTOMATIC JAW SEPARATION

The jaw separation is automatic and the distance calibrated. The process is repeatable and precise as human error is eliminated from this operation

## AUTOMATIC PARAMETERS SETUP

TestWise automatically sets up the test parameters of the selected Standard.

Time to start the test is reduced, and as the parameters are preloaded, human error is eliminated. Increased accuracy and reliability is achieved

## CONNECTIONS

Pneumatic connection to compressor or factory airline.

USB connection to laptop or PC and the Foot Switch control

## CLEAN WORK AREA

The power supply is integrated and contained within the robust case to ensure no additional 'bolt-on's' or messy wiring or cables

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## KEY BENEFITS

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### INCREASED CAPACITY INCREASED OPPORTUNITIES

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The introduction of a 10kN bench top, universal strength tester complements our 5kN model. The increased capacity offers laboratories increased opportunity to increase the diversity of product and scope of tests that can be accommodated with load cells ranging from 100N to 10kN.



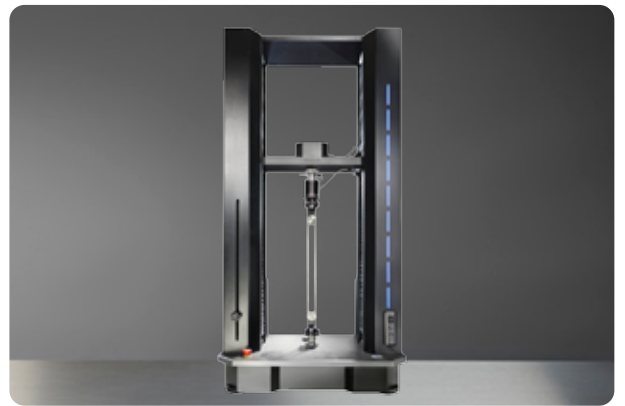
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### DUAL COLUMN

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The advantage of a dual column, crosshead instrument is its ability to test larger samples across a full range of tests. It has a vertical test space of 1200mm<sup>^</sup> and a space between columns of 460 mm.

(<sup>^</sup>from base to underside of crosshead)



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### HAND-HELD CONTROLLER

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This enables the user to load samples easily at the instrument. This is very useful when positioning and gripping specimens of variable or irregular size.

This eliminates the need to constantly return to the PC or laptop to set-up and start the process.



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### MANUAL CONTROL

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Introduced in response to user feedback who wanted to be able to manually change the settings to accommodate the different shapes and sizes, the flexibility provided by TestWise 2017 gives the user manual control through the hand-held controller, the SMART button or on the screen.



## INTERCHANGEABLE GRIPS AND LOAD CELLS

The load cells and the extensive range of tool-free specimen grips are interchangeable between Titan5 and Titan10.

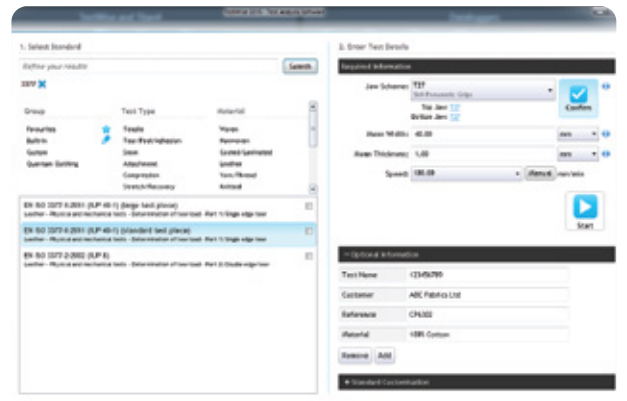
Labs can perform a wider range of tests, comply with more Standards on a wider range of test types.



## AUTOMATIC TEST PARAMETERS SET-UP

TestWise Software automatically sets up the test parameters of the selected Standard. The time to start the test is reduced which gives increased efficiency, production through-put and time savings.

Preloaded parameters eliminates human error increasing accuracy, reliability and repeatability as the test has total conformance with the standard.



## QUICK CHANGE LOAD CELLS

Changing the load cells is tool-free, easy and quick. The software automatically recognises the selected load cell.

As with many features on the Titan this feature makes the process easier and saves valuable time.



## QUICK CHANGE JAW FACE

Another very useful time saving benefit of our Titan are the quick change jaw faces.

Tool free and a very simple and efficient process.



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## CUSTOMISED STANDARDS

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Along with over 500 pre-loaded standards, TestWise 2017 allows the user to customise and save their own standards.



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## AUTOMATIC JAW SEPARATION

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The jaw separation is automatic, so unlike some of the competitor's instruments, no steel ruler is required to measure the separation space.

The distance is calibrated and is repeatable and precise as human error is eliminated from this operation.



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## SOFT CLOSE JAWS

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When loading a sample, the jaws will initially apply very light pressure, sufficient to grip the sample but not to cause damage fingers.

This safety feature significantly reduces the chance of injury and creates safer working.



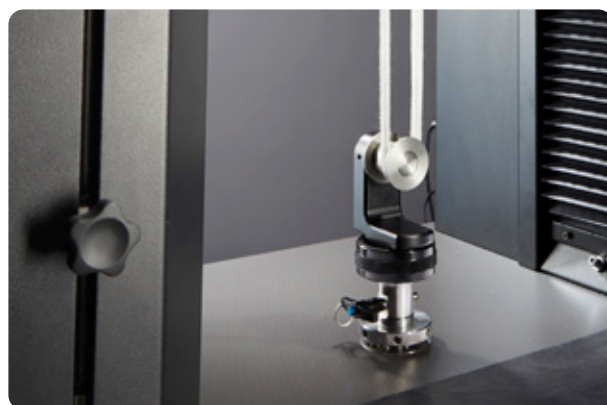
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## PRESSURE SENSOR ON BOTTOM JAW

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A pressure sensor on the bottom grip connection automatically stops the instrument in the event of a collision between the top and bottom grips. Titan10 includes manual crash prevention stops in the column.

These safety feature will prevent impact damage to the operator, the tool and the Load Cell.



# MARKET SECTORS / PRODUCT TYPES



**UNIFORMS**



**UPHOLSTERY - AUTOMOTIVE**



**UPHOLSTERY - DOMESTIC**



**LUGGAGE**



**HANDBAGS**



**PPE CLOTHING**



**OUTDOOR - BACKPACKS**



**OUTDOOR - TENTING**



**ROPES, STRAPS AND TAPES**



**TRAINERS**



**SHOES**



**INDUSTRIAL YARNS**

# TITAN TOOLING

There is an extensive range of tooling for our Titan Universal Strength Testers. The range can be seen over the next three pages

## T4 Button Holder (used with T27)



STOCK CODE: 794-864



- Testing **buttons** to destruction
- Security of attachment of **buttons**
- Integrated debris shield
- Typical standards: **BS 4162, M&S P122** and **Next TM37**

## T12 Attachments Kit (used with T27)



STOCK CODE: 794-866



- Testing **security of attachments to garments**
- Range of grips and pneumatic lower clamp
- Standards: **EN 71-1, M&S P115, M&S P124** and **Next TM42, TM45** and **TM46**

## T5 Pneumatic Yarn Grips (pair)



STOCK CODE: 794-806



- Testing strength of **yarn**
- Maximum force: 120 N
- Aluminium jaw faces (plain)
- Optional ABS jaw faces (corrugated)
- Standards: **ASTM D2256, EN ISO 2062**

## OctoGrip



STOCK CODE: 794-867

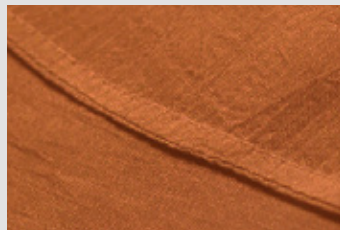


- Complementary gripping system for use with T12
- OctoGrip has 8 claws for gripping small attachments

## T8 Needle Clamps - Apparel Version (used with T27)



STOCK CODE: 794-686

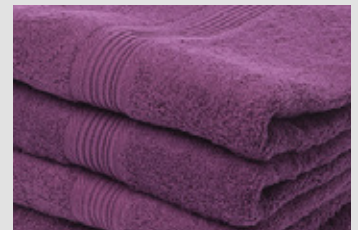


- For **apparel** fabrics
- Seam slippage test (without sewing)
- Standards: **EN ISO 13936-3**

## T13 Pile Loop Extraction Kit (used with T27)



STOCK CODE: 794-844

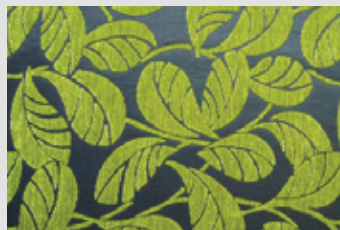


- For extracting loops from **Terry Towels**
- Standards: **EN 15598**

## T9 Needle Clamps - Upholstery Version (used with T27)



STOCK CODE: 794-687

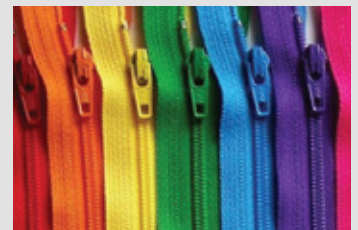


- For **upholstery** fabrics
- Seam slippage test (without sewing)
- Standards: **EN ISO 13936-3, IKEA IOS-PRG-0023**

## T14 Zip Testing Kit (used with T27)



STOCK CODE: 794-879



- Testing strength of **zip elements**
- Wide range of grips included
- Standards: **BS 3084, ASTM D2061, EN16732**



# TITAN TOOLING (continued)

## T15 Pneumatic Yarn Grips (pair)



STOCK CODE: 794-883



- Testing strength of **yarn, cords and threads**
- Maximum diameter: 6mm Ø
- Maximum force: 1000 N
- Standards: **ASTM D2256, EN ISO 2062**

## T18 Loop Bars (pair)



STOCK CODE: 794-889



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

## T19 Checkweight Set



STOCK CODE: 794-891

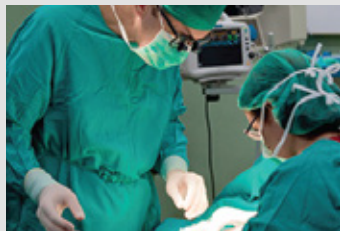


- Recommended for regular user checks of the accuracy of the load cells
- Not to be used for calibration

## T20A Clamp for Ball Burst and Puncture Tests (Titan5 only)



STOCK CODE: 794-894



- Ball burst test for **fabrics**. Operates in compression mode
- Alternative clamps and probes available on request
- Clamp only, order Ball Burst and Puncture probes separately
- Standards: **ASTM D751, D3787, D6797, GB/T 19976, WSP 110.5**

## T20A Ball Probe (Titan5 only)



STOCK CODE: 794-895



- Used with T20A Clamp.
- Operates in compression mode
- Ball Probe only, order T20A-Clamp separately
- Standards: **ASTM D751, D3787, D6797, GB/T 19976, WSP 110.5**

## T20B - Screwdriver Puncture Attachment (Titan5 only)



STOCK CODE: 794-839



- Used with T20A Clamp
- Operates in compression mode
- Screwdriver Puncture Probe only, order T20A-Clamp separately
- Standard: **ASTM D751**

## T21 C-Clamps (pair)



STOCK CODE: 794-838



- **Stretch and recovery tests**
- Specimens up to 125mm wide
- 8mm and 10mm Ø bars
- Standards: **EN14704-1 (Method B) and Adidas 4.27**

## T22 Hank Bollards / Skein Spools



STOCK CODE: 794-602



- To test the strength of **Yarn in Hanks & Skeins**
- Used for **CSP**
- Recommend using with 5000N load cell
- Standards: **ISO 6939 and ASTM D1578**

# TITAN TOOLING (continued)

## T23A Manual Fabric Grips (5kN)



STOCK CODE: 794-920

- Manually operated grips
- Used for test Strength, Seam, Tear tests
- Full width jaw faces 25 mm<sup>2</sup>
- Maximum force: 5000 N

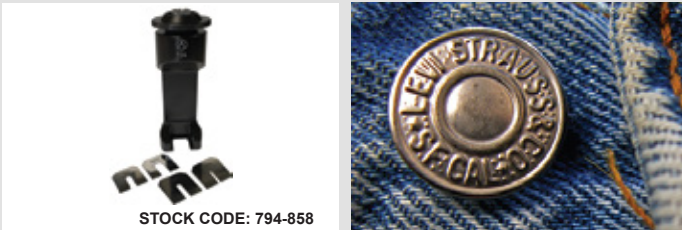
## T26 Bra Wire Penetration Tool (used with T27)



STOCK CODE: 794-932

- To test puncture resistance of Bra Wire casing
- Standards: **M&S P11A, Next TM36, Pacific Brands PB-002, H&M DS-12**

## T24 Stud and Button Holder (used with T27)



STOCK CODE: 794-858

- Suitable for testing **buttons** and **tack-buttons (studs)**
- Standards: **BS 7907, CEN/TR 16792**

## T28 Coefficient of Friction



STOCK CODE: 794-936

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

## T25 Manual Yarn Grip (pair)



STOCK CODE: 794-931

- Testing strength of **yarn**
- Maximum force: 1000 N
- Standards: **ASTM D2256, ISO 2062**

## T27 Universal Pneumatic Fabric Grips (pair)



STOCK CODE: 794-927

- Strength, seam slippage and tear tests
- Maximum force: 5000 N

## T33 Baumann / Slit Tear Clamps



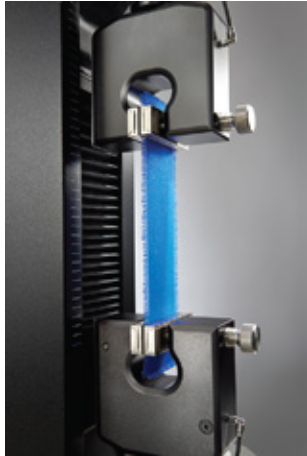
STOCK CODE: 794-885

- 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 Titan are numerous. A selection some of the diverse range of tests, with the relevant tooling and grips, is shown below on our 5000 N Titan but which are interchangeable with Titan10 except where stated.

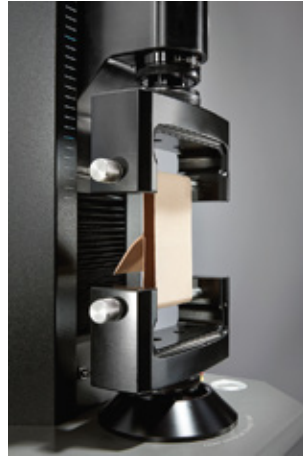
**Fabric Strength Test (T27)**



**Tear Strength Test (T27)**



**Stretch & Recovery Test (T18)**



**Seam Slippage Test (T27)**



**Baumann Tear Strength**



**Hank (Lea) Strength Test**



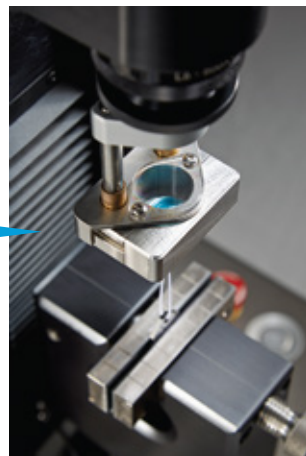
**Compression Test (T20A)\***



**Compression Test (T20B)\***



**Button Strength (T4)**



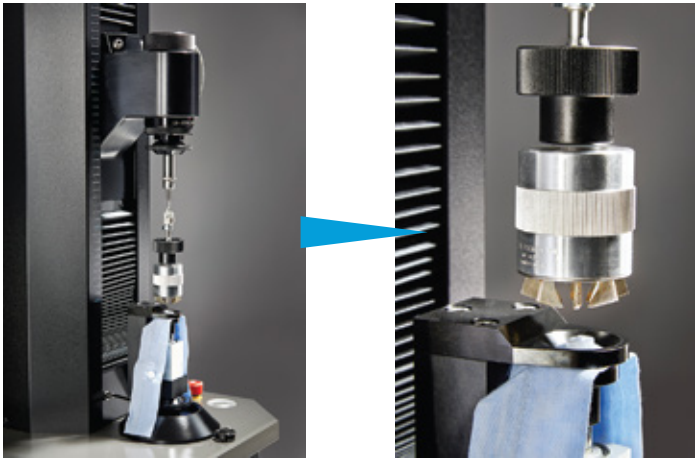
**Security of Attachments Test (T12)**



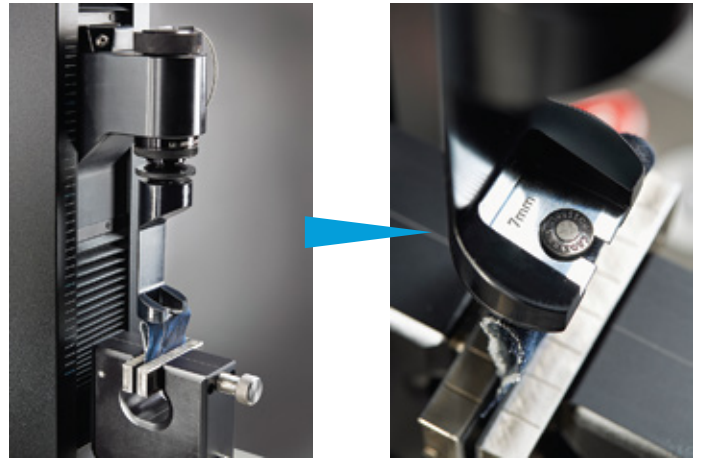
\* Titan5 only

# TITAN APPLICATIONS (continued)

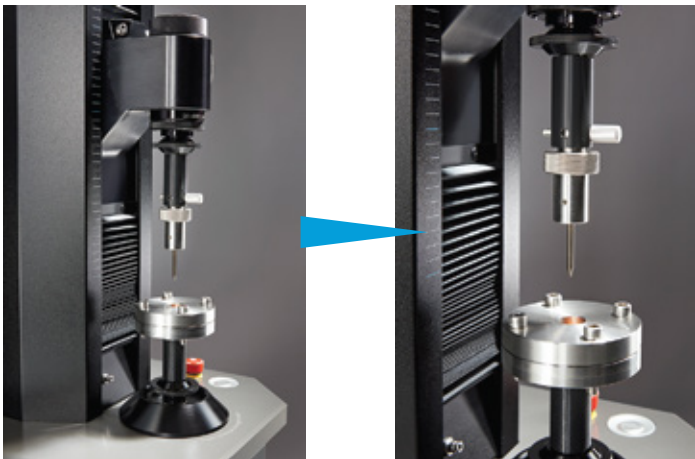
**OctoGrip**



**Stud Strength**



**Puncture Test**



**Line Contact**



**Coefficient of Friction**



James Heal can also consider specific testing requirement with special grips and modified software upon request.

# TITAN TOOL INTERCHANGEABILITY

\*\* Recommended

T No.	Stockcode	Description	Max Load Cell**	Compatibility		Standards
				Titan5	Titan10	
T4	794-864	Button Holder (used with T27^ or T37)	1000			BS 4162, M&S P122 & Next TM37
T5	794-806	Pneumatic Yarn Grips (pair)^	200			ASTM D2256, ISO 2062
T8	794-686	Needle Clamp [Apparel Version] (used with T27)^	1000		with T27 only	ISO 13936-3
T9	794-687	Needle Clamp [Upholstery Version] (used with T27)^	1000		with T27 only	ISO 13936-3, IKEA IOS-PRG-0023
T12	794-934	Attachments Kit (can be used with T27^ or T37)	500			EN 71-1, M&S P115 & P124, Next TM42, TM45, TM46
(T12)	794-867	OctoGrip (use with T12)	200			
T13	794-844	Pile Loop Extraction Kit (used with T27^ or T37)	100			EN 15598
T14	794-933	Zip Testing Kit (used with T27^ or T37)	1000			BS 3084, ASTM D2061, EN 16732
T15	794-883	Pneumatic Yarn Grips (pair)^	1000			ASTM D2256, ISO 2062
T16	794-935	Attachments Kit (used with T12)	500			BS 7907, CEN/TR 16792
T18	794-889	Loop Bars (pair)^	200			BS 4952, EN 14704-1 Method B, ASTM D4964, Adidas 4.27
T19	794-891	Check Weight Set^	ALL			N/A
T20A	794-894	Clamp for Ball Burst and Puncture Tests*	5000			ASTM D751, D3787, D6797, GB/T 19976, WSP 110.5
T20A	794-895	Ball Probe*	5000			ASTM D751, D3787, D6797, GB/T 19976, WSP 110.5
T20B	794-839	Screwdriver Puncture Attachment*	5000			ASTM D751
T21	794-838	C-Clamps(pair)^ (formerly T11)	200			EN 14704-1 Method B, Adidas 4.27
T22	794-602	Hank Bollards / Skein Spools^	5000			ISO 6939, ASTM D1578
T23A	794-920	Manual Fabric Grips (5kN)^	5000			
T23B	794-839	Manual Fabric grips (2.5kN)^	5000			
T24	794-858	Button & Stud Holder (used with T27^ & T37)	1000			BS 7907, CEN/TR 16792
T25	794-931	Manual Yarn Grips (pair)^	1000			ASTM D2256, ISO 2062
T26	794-932	Bra Wire Penetration Tool (used with T27^ & T37)	1000			M&S P11A, Next TM36, Pacific Brands, PB-002, H&M DS-12
T27	794-927	Pneumatic Fabric Grips^	5000			
T28	794-936	Coefficient of Friction Fixture^	100			ASTM D1894, DIN 53375, ISO 9295, TAPPI T549
T29	794-937	Compression Platens (pair)	5000			LTD 18, IS 14625
T30	794-938	Tuft and Loop Withdrawal Kit^	200			ISO 4919
T32	794-835	EN 388 Nail Puncture Kit	1000			EN 388
T33	794-885	Baumann / Slit Tear Clamps^	200			ISO 3377-2, IUP 8, M&S P35
T34	794-882	ASTM Slit Tear Clamps^	200			ASTM D2212
T35	794-886	Adhesion of Finish Kit^	200			ISO 11644, IUF 470
T36	794-887	Leather Ball Burst^ (tension mode)	1000			ISO 3379, IUP 9, SLP 9, BS 3424, BS 3144 Method B
T37	794-940	Pneumatic Fabric Grips	10000			
T39	794-941*	T39 Circular compression Platens (pair), 155mm dia, stainless steel (10kN max)	10000			LTD 18, IS 14625

543-613 ^Tooling adaptor required for use with Titan10

\* Ball Probe & Screwdriver Puncture Attachment available upon request for Titan10

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## TESTWISE 2017 SOFTWARE

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### ADVANCED SOFTWARE MADE SIMPLE

Titan is further enhanced and supported by the easy to use and intuitive test analysis software.



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## SAVE TO PDF

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All reporting can be saved directly to PDF, speeding up the process of producing the final test report.



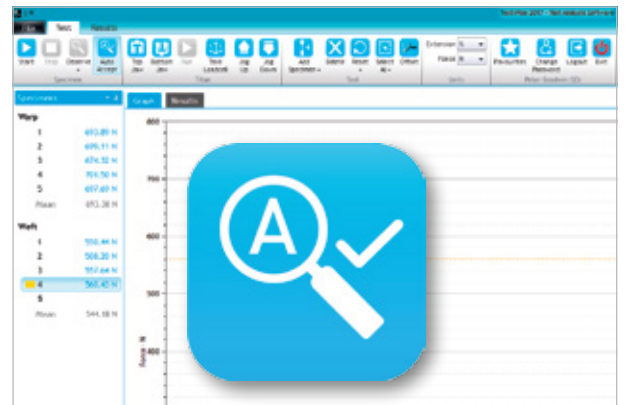
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## FASTER, SMARTER TESTING

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New 'Auto-accept' function means you don't need to move away from your instrument to your computer.

Observations (also called 'attributes') are now defined by the standards making them more specific and more relevant to the test.



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## A RANGE OF NEW STANDARDS

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Just over 100 standards and retailer test methods have been added to TestWise 2017, increasing the library now has over 500 pre-loaded standards and test methods easily located through the 'Filter' option.

The new standard include adidas, ASTM, ISO, JIS, M&S and Next.



# NEW CALCULATIONS

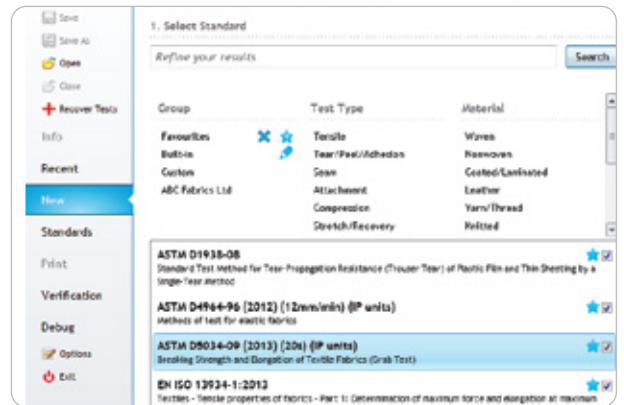
A new range of calculations with a focus on sportswear.

It includes preloaded standards for compression and energy loss and hysteresis for stretch fabrics containing elastomeric yarns (Lycra, Spandex).



# FILTERS & FAVOURITES

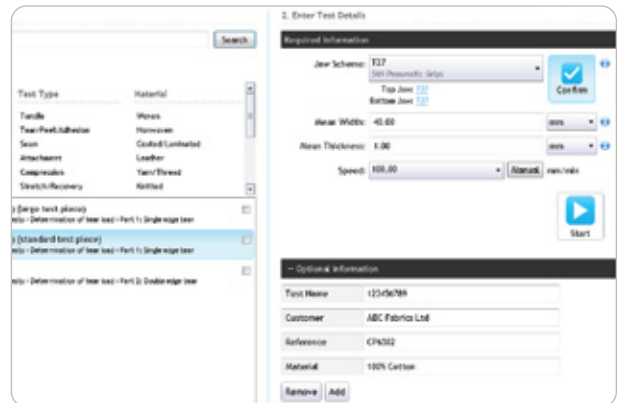
Standards can be easily located through a Search Filter, and users can create a customised list or groups of favourites to access all the standards they use regularly.



# AUTOMATIC PARAMETERS

TestWise transfers the test parameters, as specified in the selected Standard, to the instrument for automatic set up and control.

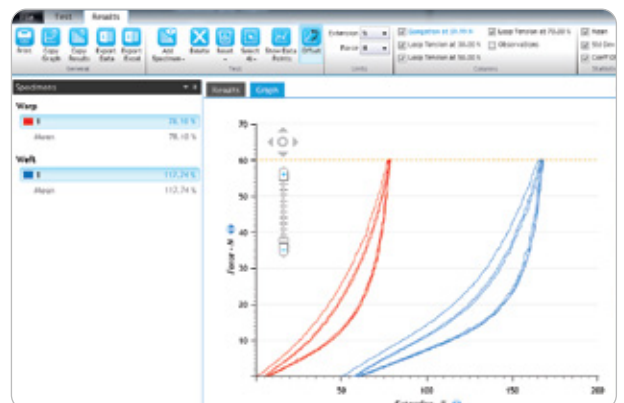
This reduces the time to start the test. Increased production efficiency. The training time is also reduced.



# RESULTS

The real time presentation of Extension and Force values allows monitoring of results and immediate visibility of trends during testing.

Customisable statistical reporting. Specimen test results including current mean value allow immediate visibility of trends.

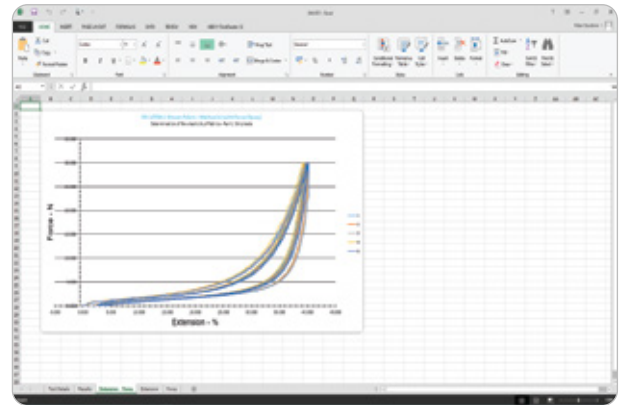


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## EXPORT TO EXCEL

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All the data from testing can be exported to Excel with an automatic graph creation facility, which enables the user to create their own custom analysis and statistics.

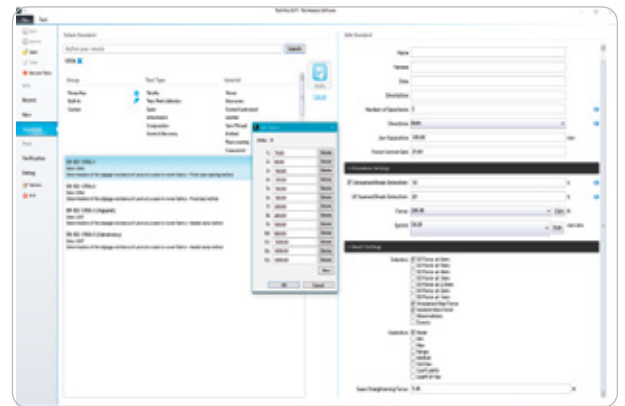


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## CUSTOMISED STANDARDS

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In addition to the comprehensive library of easily accessible pre-loaded standards the user can also create and save their own custom standard to meet their own specific testing requirements.



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## TECHSMART SOFTWARE & APPLICATIONS SUPPORT

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It is recommended all Titan user sign-up for our **'SUPER'** paid support package.

This gives them direct access to the James Heal Applications Specialists via ticketed email support system and online remote diagnostics, plus free annual TestWise software upgrades and regular software updates/bug fixes.

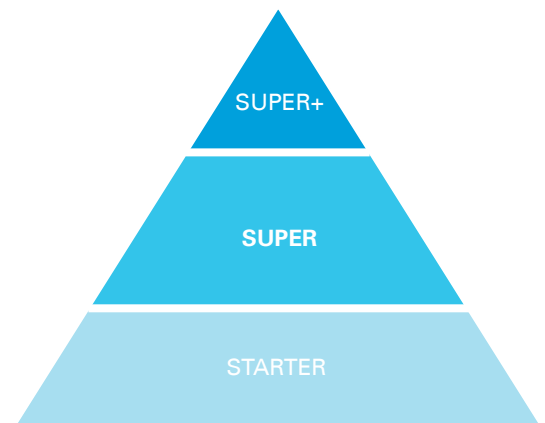
Super customers benefit from:

- Direct access to James Heal Technical Experts
- Online applications support
- Remote trouble-shooting and diagnostics
- Free software updates and bug fixes
- Free annual software upgrades
- Access to ticket portal to check support status
- Support for over 500 standard

Major software releases include significant features upgrades to ensure the software is as efficient and accurate as possible, to improve laboratory productivity and reduce downtime.

Super customers have the flexibility to choose 12 or 36 month contracts - most customers choose the 36 month contract will a multi-year discount of 15%.

Super customers also qualify for discounted training and consultancy.





# COMPUTER SPECIFICATION

## Personal Computer (PC) - Minimum Specification

PC	Personal Computer (PC) running Microsoft Windows The use of other operating systems running 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. Not compatible with Windows® XP or Windows® Vista Microsoft.NET 4.0 Framework is required (included on disc)
Monitor:	Minimum resolution of 1024x768 pixels
HDD:	Minimum 250 GB
Ports:	At least 3 free USB 2.0 ports if using the Hand Held Controller
Printer:	Any Windows compatible printer Colour printer recommended but not essential

# TECHNICAL DATA

ITEM	TITAN5	TITAN10
Measuring Principle:	Constant Rate of Extension (CRE)	
Capacity (Tension & Compression):	5000 N, 5kN, 500kgf and 1100lbf	10000 N, 10kN, 1000kgf and 2200lbf
Load Cells:	Up to 3 load cells can be configured from a choice of five (5): 5000 N 1000 N or 500 N (not 1000N and 500N) 100 N or 200 N (not 200N and 100N)	Load Cells available: 10000 N, 5000 N, 1000 N, 500 N, 200, 100 N
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:	560 mm - Maximum usable extension with T27 jaws fitted	700 mm - Maximum usable extension with T37 jaws fitted
Total Vertical Stroke:	700 mm - Maximum movement of the head between limit switches when no jaws are fitted	980 mm - 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:		

# TITAN - TESTWISE 2017 STANDARDS LIBRARY

Titan and TestWise 2017 have been developed based on a wide variety of national and international Standards and retailer test Pad methods. The list below is the definitive list of Standards pre-loaded on TestWise 2017.

## SECURITY OF ATTACHMENT

ASTM D1335 (IP units)	BS 4162	LTD 84 Part 1
ASTM D2061 (10.1)	BS 7907 (Annex B)	LTD 84 Part 2
ASTM D2061 (10.3)	BS 8510 (Section 10)	M&S P115
ASTM D2061 (19.1)	CEN/TR 16792 Annex B	M&S P115A
ASTM D2061 (19.2)	CFR (16) 1500.51-53 Tension Test	M&S P115B
ASTM D2061 (19.3)	EN 15598	M&S P115C
ASTM D2061 (19.4)	EN 71-1 (Tension Test)	M&S P115H
ASTM D2061 (19.5)	EN 71-1 (Tension Test) (VS)	M&S P122
ASTM D2061 (27.3)	GAP INC S1023	M&S P124
ASTM D2061 (72.1)	GB 6675.2 (Tension Test)	M&S P141
ASTM D4846	IS 14181 (Part 2) Annex B	NEXT©TM37
ASTM D6644-01 (2013)	IS 14181 (Part 2) Annex C	NEXT©TM42
ASTM D7142 (Option 1)	IS 14181 (Part 2) Annex D	NEXT©TM45
ASTM D7506 (IP units)	IS 14181 (Part 2) Annex E	NEXT©TM46
ASTM D7506 (SI units)	IS 14181 (Part 2) Annex F	TWC-TM202
ASTM F1917 - Bumper Pad Tie Attachment Strength	IS 14181 (Part 2) Annex G	UNE 40902 (Ensayo de Traccion)
ASTM F963 (Tension Test for Seams)	IS 14181 (Part 2) Annex H	UNE 40902 (Ensayo de Traccion) (VS)
ASTM F963 (Tension Test for Seams) (VS)	IS 14181 (Part 2) Annex J	
ASTM F963 (Tension Test)	ISO 4919	
ASTM F963 (Tension Test) (VS)	ISO 8124-1 (Tension Test)	
BS 3084 Annex B	ISO 8124-1 (Tension Test) (VS)	
BS 3084 Annex C	JTA ST 2012 Compression Test	
BS 3084 Annex D	JTA ST 2012 Tension Test	
BS 3084 Annex E	JTA ST 2012 Tension Test (VS)	
BS 3084 Annex G	LS&CO METHOD 11 (IP units)	
BS 3084 Annex H	LTD 16	
BS 3084 Annex I	LTD 26	
BS 3084 Annex J	LTD 81 (based on 16 CFR 1500.53)	

## COMPRESSION AND BALL BURST

ASTM D2207	EN 388 - Puncture Resistance (6.4)	JIS L1085 (6.7.3)
ASTM D3787	EN 71-1 Compression Test: 110N	LTD 18
ASTM D4830	EN ISO 3386-1	NWSP 110.5
ASTM D4833	GB 6675.2 Compression Test	
ASTM D5748	GB/T 19976	
ASTM D6797	IS 14625 Annex D	
ASTM D751 Section 18	ISO 3303 Method A	
ASTM D751 Section 22	ISO 3379	
BS 3424 Part 6	ISO 8124-1 Compression Test	
EN 12332-1	ISO 9073-5	

## SEAM SLIPPAGE AND SEAM STRENGTH

AATCC/ASTMTS-015	EN ISO 13935-1	JIS L1096 (8.23.1) Method A (Part 1 - Leave 1h)
adidas® Group 4.13	EN ISO 13935-2	JIS L1096 (8.23.1) Method A (Part 2 - Measure)
adidas® Group ST-05	EN ISO 13935-2	JIS L1096 (8.23.1) Method B (No Leave Time)
Arcadia AG36	EN ISO 13936-1	JIS L1096 (8.23.1) Method B (Part 1 - Leave 1h)
Arcadia AG38	EN ISO 13936-2	JIS L1096 (8.23.1) Method B (Part 2 - Measure)
Arcadia AG39	EN ISO 13936-3 (Apparel)	JIS L1096 (8.23.1) Method C (Thin Filament Fabrics)
AS 2001.2.21	EN ISO 13936-3 (Upholstery)	JIS L1096 (8.23.1) Method D (Wool Fabrics)
AS 2001.2.22	FZ/T 81004	JIS L1096 (8.23.2) Method B
AS 2001.2.22 (with Seam Strength)	FZ/T 81006	LTD 24
ASTM D1683	FZ/T 81007	M&S P12
ASTM D4034	FZ/T 81008	M&S P12A
ASTM D434	FZ/T 81010	M&S P12B
ASTM D5822	GB 6675.2 (Tension Test for Seams)	M&S P12C
BS 2543	GB/T 14272	NEXT©TM16
BS 3320	GB/T 18132	NEXT©TM16a
BS 3424 Part 33 Method 36	GB/T 2660	SANS 6194
BS 5131-3.1	GB/T 2662	TWC-TM117
BS 5131-5.13	GB/T 2664	UNI 10606
DECATHLON DS-160 - TEST 1	GB/T 2665	UNI 4818-11
DECATHLON DS-160 - TEST 2	GB/T 2666 4.4.10 & Annex B-T	
DECATHLON DS-160 - TEST 3	GB/T 2666 4.4.11 & Annex C-T	
DECATHLON DS-160 - TEST 4	ISO 17697 Method A (Needle Clamp)	
DIN 53868	ISO 17697 Method B (Stitched Seam)	
EN 13572 Method B (Stitched Seam)	ISO 8124-1 (Tension Test for Seams)	
EN 13572:2001 Method A (Needle Clamp)	ISO 8124-1 (Tension Test for Seams) (VS)	
EN 71-1 (Seam Test)	JIS L1093 Grab Method A-1 (horizontal seam)	
EN 71-1 (Seam Test) (VS)	JIS L1093 Grab Method A-2 (vertical seam)	
EN ISO 13935/6-2 (kgf) (combined method)	JIS L1093 Grab Method A-3 (ISO method)	
EN ISO 13935/6-2 (N) (combined method)	JIS L1096 (8.23.1) Method A (No Leave Time)	

## STRENGTH AND RECOVERY (CYCLIC)

adidas® Group 4.12  
adidas® Group 4.27  
adidas® Group 4.27  
adidas® Group 4.40  
Arcadia AG29  
Arcadia AG30  
Arcadia AG31 Part(i)  
ASTM D4964  
ASTM D4964 (500mm/min) (LLL mod)  
ASTM D6614  
BS 4952 - including Tension Decay  
BS 4952 (LLL 1.5 kgf)  
BS 4952 (LLL 3.6 kgf)  
BS 4952 (LLL 50%)  
BS 4952 (LLL mod)  
CPSD-SL-24964-MTHD  
DBA RMQT-OI/020-035  
DECATHLON DS-275  
DECATHLON DS-275  
DECATHLON DS-275  
DIN 53835 Part 13  
DIN 53835 Part 14  
DUPONT TTM 076  
EN 14704-1 Knitted Fabric - Method A - Fixed Elongation  
EN 14704-1 Knitted Fabric - Method A - Fixed Load  
EN 14704-1 Knitted Fabric - Method A - Fixed Load (kgf)  
EN 14704-1 Knitted Fabric - Method A - Fixed Load (with Force Decay)  
EN 14704-1 Knitted Fabric - Method A - Fixed Load (with Force Decay) (kgf)  
EN 14704-1 Knitted Fabric - Method B - Fixed Elongation  
EN 14704-1 Knitted Fabric - Method B - Fixed Load  
EN 14704-1 Knitted Fabric - Method B - Fixed Load (with Force Decay)  
EN 14704-1 Woven Fabric - Method A  
EN 14704-1 Woven Fabric - Method A (kgf)  
EN 14704-1 Woven Fabric - Method A (with Force

Decay)  
EN 14704-1 Woven Fabric - Method A (with Force Decay)(kgf)  
EN 14704-1 Woven Fabric - Method B  
EN 14704-1 Woven Fabric - Method B (with Force Decay)  
EN 14704-2 Method A (Force Decay)  
EN 14704-3 Method A  
FZ/T 70005 7.1.1 Woven Fabrics  
FZ/T 70005 7.1.2 Knitted Fabrics  
FZ/T 70006 - 8.2.1 and 8.4 Fixed Elongation (1 cycle)  
FZ/T 70006 - 8.2.2 Fixed Load (1 cycle)  
FZ/T 70006 - 8.3.1.1 Fixed Elongation (1 cycle)  
FZ/T 70006 - 8.3.1.2 Fixed Elongation (5 cycles)  
FZ/T 70006 - 8.3.2.1 Fixed Load (1 cycle)  
FZ/T 70006 - 8.3.2.2 Fixed Load (5 cycles)  
GAP INC S1033  
GAP INC S1064  
Jantzen Test Method 3  
JIS L1096 (8.15.1) Method A ( 2 cycles)  
JIS L1096 (8.15.1) Method A ( 5 cycles)  
JIS L1096 (8.15.1) Method A (10 cycles)  
JIS L1096 (8.15.2) Method B  
JIS L1096 (8.16.1) Method A  
JIS L1096 (8.16.1) Method B  
JIS L1096 (8.16.1) Method C  
JIS L1096 (8.16.1) Method D (200mm 100mm/min)  
JIS L1096 (8.16.1) Method D (200mm 200mm/min)  
JIS L1096 (8.16.1) Method D (76mm 100mm/min)  
JIS L1096 (8.16.1) Method D (76mm 300mm/min)  
JIS L1096 (8.16.1) Method D (76mm 50mm/min)  
LTD 03  
LTD 06  
LTD 07  
LTD 10  
LTD 11  
LTD 15  
LTD 19  
LTD 27

M&S P14 - FABRICS  
M&S P14 - NARROW ELASTICS  
M&S P14 - NARROW FABRICS  
M&S P14A - LACE FABRICS  
M&S P14A - NARROW LACES  
M&S P14B  
M&S P14C  
M&S P15 PART 1  
M&S P15A  
M&S P15B  
NEXT©TM21  
NEXT©TM21a  
NIKE - Stretch & Elastic Properties - Part 1  
NIKE - Stretch & Elastic Properties - Part 2  
Pacific Brands PB-001  
Pacific Brands PB-027  
Pacific Brands PB-028  
Puma PT85  
Target TP 50&51  
TEMA ELASTICITY FT-07 Method 2  
Triumph TP-22 (1 cycle)  
Triumph TP-22 (2 cycles)  
TWC-TM179 Part A for Knitted Fabrics  
TWC-TM179 Part A for Woven Fabrics  
TWC-TM248

## TEAR, PEEL AND ADHESION

AATCC 136  
adidas® Group 4.14  
adidas® Group 4.15  
adidas® Group ST-07 - Peel Strength  
adidas® Group ST-07 - Shear Strength  
AS 2001.2.10  
ASTM D1876  
ASTM D1894  
ASTM D1938  
ASTM D2212  
ASTM D2262  
ASTM D2724  
ASTM D3167  
ASTM D4533  
ASTM D4704  
ASTM D4831  
ASTM D4851 - §14  
ASTM D5169  
ASTM D5170 (Analysis: 5 Highest)  
ASTM D5170 (Analysis: Integrator)  
ASTM D5587  
ASTM D5733  
ASTM D5735-95  
ASTM D5884  
ASTM D6077  
ASTM D6636  
ASTM D7005  
ASTM D751 (Section 32)  
BS 3424 Part 7  
BS 3424:Part 5 Method 7A  
BS 3424:Part 5 Method 7B  
BS 3424:Part 5 Method 7C  
BS 4303  
DECATHLON DS-044  
Decathlon DS-302  
DIN 53289  
DIN 53329 Procedure A (standard test piece)  
DIN 53329 Procedure B (large test piece)  
DIN 53356 (Shape A)  
DIN 53356 (Shape B)  
DIN 53357 (Method A)  
DIN 53507 Procedure A  
DIN 53507 Procedure B

DIN 53530 (Sheet Specimens)  
DIN 53859 Part 4  
DIN 53859 Part 5  
DIN 54310  
EN 12773  
EN 13514  
EN 13571  
EN 1392  
EN 1464  
EN 1875-3  
EN 388 - Tear Resistance (6.3)  
EN ISO 11644 (IUF 470)  
EN ISO 13937-2  
EN ISO 13937-3  
EN ISO 13937-4  
EN ISO 17698  
EN ISO 17708  
EN ISO 23910 (IUP 44)  
EN ISO 2411  
EN ISO 3377-1 (IUP 40-1) (large test piece)  
EN ISO 3377-1 (IUP 40-1) (standard test piece)  
EN ISO 3377-2 (IUP 8)  
EN ISO 4674-1 - Method A  
EN ISO 4674-1 - Method B  
EN ISO 9073-4  
FZ/T 80007.1 (5 High and 5 Low Peaks)  
FZ/T 80007.1 (Full Integration)  
GB/T 3917.2  
GB/T 3917.3  
GB/T 3917.4  
GB/T 3917.5  
INEN 561  
IS 15891 (Part 4)  
IS 6489 (Part 2)  
IS 6489 (Part 3)  
IS 6489 (Part 4)  
IS 7016 (Part 3) - Method A1  
IS 7016 (Part 3) - Method A2  
IS 7016 (Part 5)  
ISO 11857  
ISO 17696  
ISO 20866  
ISO 20872

ISO 20874  
ISO 4578  
JIS L1085 (6.13)  
JIS L1085 (6.6.2)  
JIS L1085 (6.6.3)  
JIS L1086  
JIS L1096 (8.17.1) Method A-1  
JIS L1096 (8.17.1) Method A-2 (Wool Fabrics)  
JIS L1096 (8.17.2) Method B  
JIS L1096 (8.17.2) Method C  
LLL-001 (IP units)  
LLL-001 (SI units)  
LLL-002 (IP units)  
LLL-002 (SI units)  
M&S P13  
M&S P13A  
M&S P35  
M&S P42  
M&S P98  
NEXT©TM25  
NF G62-021 - Peeling Test  
NF G62-021 - Shearing Test  
NIKE TEST EQ01  
NIKE TEST G77 - Textile  
NWSP 100.2  
NWSP 100.3  
NWSP 401.0  
QB/T 2711  
Renault D41 1015/-E  
SABS SM 637  
SANS 11644 (IUF 470)  
SATRA TM30  
SIS 25 12 31  
TWC-TM264

## TEAR, PEEL AND ADHESION

AATCC/ASTM TS-010	GAP INC S1034	NIKE TEST G76 for Webbing
adidas® Group 4.10	GB/T 3916	NIKE TEST G76 for Yarns
adidas® Group 4.11	GB/T 3923.1	NWSP 110.1
Arcadia AG37	GB/T 3923.2	NWSP 110.4
AS 2001.2.3.1	H&MTM DS:12	Pacific Brands PB-002
AS 2001.2.3.2	H&MTM DS:13	Pacific Brands PB-003
ASTM D1578 - Option 2	INEN 1061 (A - Probetas Grandes)	Pacific Brands PB-004
ASTM D1578 - Option 3	INEN 1061 (B - Probetas Medianas)	Pacific Brands PB-021
ASTM D1682	INEN 1061 (C - Probetas Pequeñas)	PRIMARK PM07
ASTM D2208	IS 1969 (Grab Method)	PRIMARK PM08
ASTM D2209	IS 1969 (Ravelled Strip Method)	PSTC-131 Procedure A
ASTM D2211	IS 7016 (Part 2)	PSTC-131 Procedure B
ASTM D2256	IS 7071 (Part 4)	SANS 1540
ASTM D2256-10	IS 7703 (Part 2)	SANS 5636
ASTM D3354	ISO 17706	SATRA PM117
ASTM D3759M Procedure A	ISO 1805	SATRA TM29
ASTM D3759M Procedure B	ISO 2023 Annex C	SC/T 4022
ASTM D4632	ISO 29864 Method A	Toyota Eng. Std. TSL3505G
ASTM D4912	ISO 29864 Method B	TWC-TM04
ASTM D5034	ISO 4637 (BS 903-A27)	UNI 4818-7
ASTM D5035	ISO 5081	
ASTM D6241	ISO 5082	
ASTM D6479	ISO 6939	
ASTM D6775	ISO 9073-3	
BS 1932-2	JIS L1085 (6.5.1)	
BS 2576	JIS L1096 (8.14.1) Method A	
BS 3144 - Ball Burst Test	JIS L1096 (8.14.1) Method A (Woven Wool Fabrics)	
BS 3424:Part 4 Method 6	JIS L1096 (8.14.1) Method B	
BS 5131-5.11	JIS L1096 (8.14.2) Method E	
DIN 53504	JIS L1096 (8.14.2) Method F	
DIN 53858	JIS L1096 (8.23.3) Hook Pin Method	
DIN 53934	M&S P11	
DIN EN 14716	M&S P11A	
EN 12311-1	M&S P11B	
EN 13522	M&S P11C	
EN 14410 Method A	M&S P43	
EN 14410 Method B	M&S P70	
EN 29073-3	NEXT©TM27	
EN ISO 13934-1	NEXT©TM36	
EN ISO 13934-2	NIKE TEST G76 for Binding Tape	
EN ISO 1421 Method 1	NIKE TEST G76 for Cables	
EN ISO 1421 Method 2	NIKE TEST G76 for Elastic Gore	
EN ISO 17695	NIKE TEST G76 for Fabrics	
EN ISO 2062	NIKE TEST G76 for Genuine Leathers	
EN ISO 3376 (IUP 6) (large test piece)	NIKE TEST G76 for Insole Boards	
EN ISO 3376 (IUP 6) (standard test piece)	NIKE TEST G76 for Knitted Mesh	
ERT 20.2	NIKE TEST G76 for Shoe Laces	
GAP INC S1027	NIKE TEST G76 for Synthetic Leathers	
GAP INC S1028	NIKE TEST G76 for Threads	

If the Standard required is not include above, we should be able to develop it relatively easily and add it to the Standards Library - in most cases the development process is simple.

# INSTALLATION GUIDE

ITEM	TITAN5	TITAN10 - 230V	TITAN10 - 110V
<b>Electricity*</b>			
Volt:	100 to 240V ±10%	230V±10%	100V±10%
Hertz:	50/60Hz	50/60 Hz	50/60 Hz
Phase:	Single	Single	Single
Watts:	60W	240W	240W
Rated Current	0.3A	1A	2.4A
<b>Air</b>			
Working Pressure:	7-10 bar, 700-1000 kPa, 100-145 psi		
Minimum Flow:	17 litres per minute		
Filtration:	5 microns or better to remove oil and moisture		
Pipe Outlet:	4mm		
Air Regulator:	Not Required - Built into Titan		
Location	Bench		
Water Supply	Not required		
Drainage	Not required		
Air Extraction	Not required		
Conditioning	It is recommended the instruments are located within a conditioned atmosphere.		

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

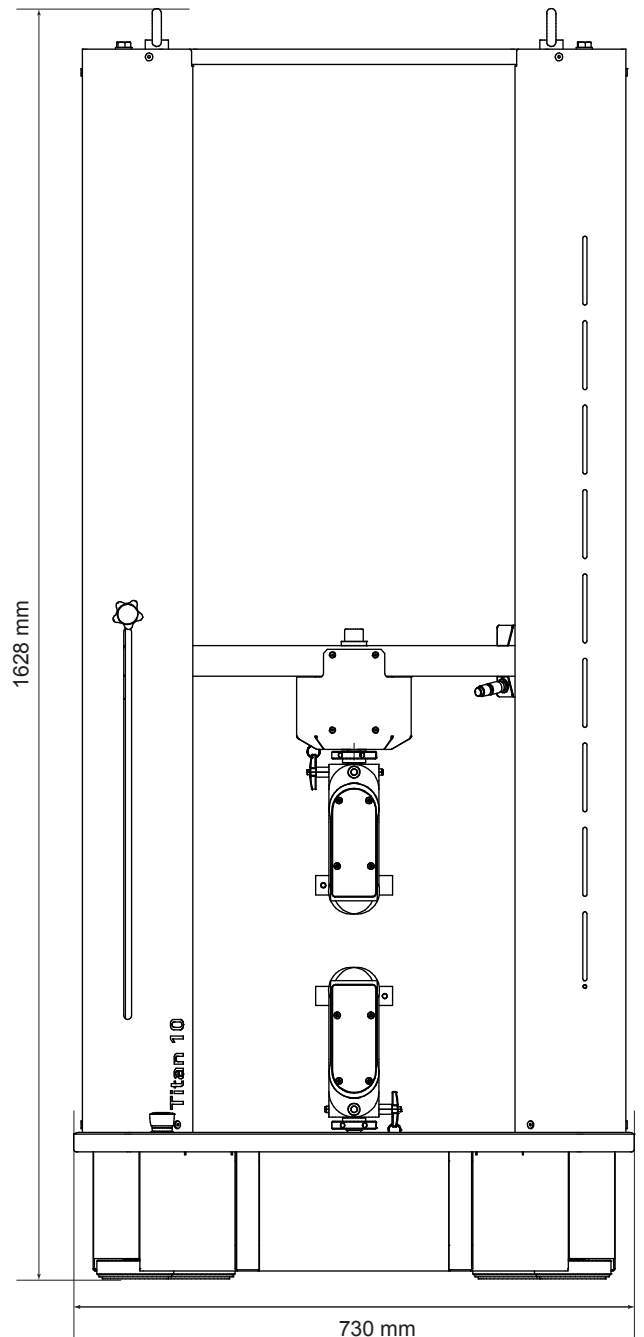
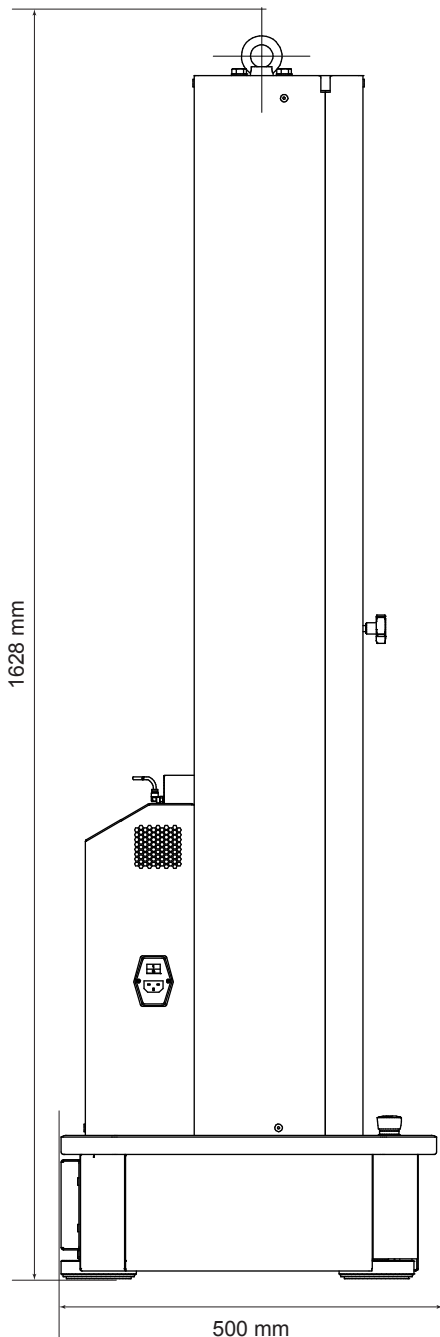
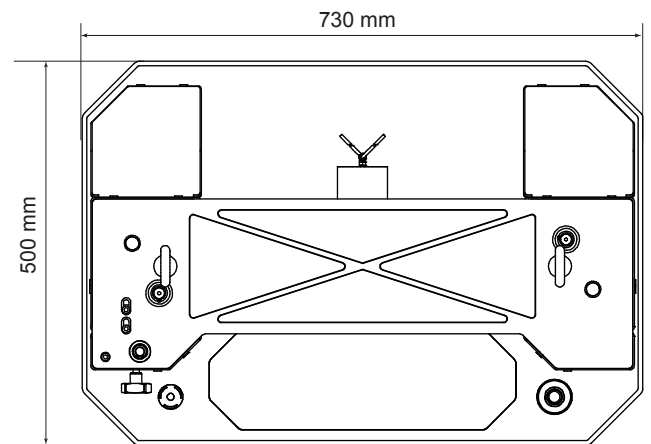
CE Conformity: ProMace is CE marked and is therefore compliant with the following directives:  
 Machinery Directive 2006/42/EC  
 Low Voltage Directive 2006/95/EC  
 EMC Directive 2004/108/EC  
 WEEE Directive 2002/96/EC  
 RoHS Directive 2002/95/EC

# TITAN10 - DIMENSIONS & WEIGHT

Titan10 must be placed upon on a bench sufficiently strong to safely support the instrument and also to minimize movement while in use.

Dimensions (mm)	Height	Width	Depth	Weight (kg)
Titan 10	1628	730	500	180*

\*Excluding Transit Frame



# TITAN5 - DIMENSIONS & WEIGHT

Titan5 is designed to be placed upon on a bench and is recommended the instrument is located within a conditioned atmosphere.

Dimensions (mm)	Height	Width	Depth	Weight (kg)
Titan5	1339	400	500	82*

\*Excluding Transit Frame

