

TruBurst⁴

INTELLIGENT BURSTING STRENGTH TESTER

Unprecedented functionality, enabling an extensive variety of tests to be performed on a wide range of materials.

MODEL NUMBER: 1440 STOCK CODE: 905-511



KEY BENEFITS

TESTWISE SOFTWARE

Complex users designed tests can be set-up. Burst, Cyclic, Rapid fatigue and Extension & Recovery. Data can also be viewed live and exported to Excel.

AUTOMATIC FLOW CONTROL

Substantial time-savings - increased accuracy, consistency and reliability of the results.

LASER DISTENSION MEASUREMENT

Non-contact laser distension measurement ensures pin point accuracy and excellent repeatability of test results.

TOOL FREE DOME CHANGE

Five interchangeable domes. Automatic recognition of dome size. Tool free dome change to accelerate testing and minimise downtime.

DIAPHRAGM CORRECTION

Software prompts the user to do a diaphragm correction after testing.

AUTOMATIC TIME TO BURST

ISO 13938-2 and similar standards - a warning message will be displayed if the specimen does not burst within the specified time.

LIFTING SAFETY GUARD

Now an integral part of the instrument, sliding up to provide easy access and better utilization of bench space.

M&S APPROVED

TruBurst is approved by Marks and Spencer.



Approved by

M&S

TARGET MARKET SECTORS

TEXTILES

- Traditional knitted products, e.g. T-Shirts, casual/sportswear with and without Lycra
- Woven
- Nonwoven; e.g. wet wipes, cleaning clothes such as J-Cloths.

MEDICAL SUPPLIES

- Nonwovens - knee / elbow supports
- Wound dressings
- Suture strength
- Hernia patches
- Organ patches
- Animal skin
- Blister packs
- Mosquito nets for WHO (World Health Organisation)
- Technical textiles: e.g. surgical gowns/masks

PAPER

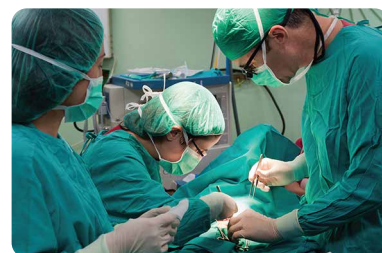
- Light weight paper

PLASTICS

- Food packaging
- Bin liners
- Sacks and various plastic products
- Vacuum packaging

OTHERS

- Tin Foil



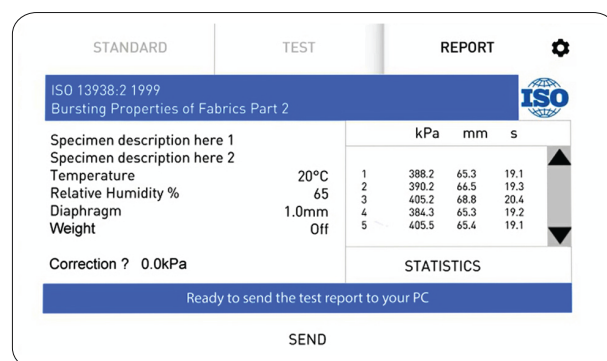
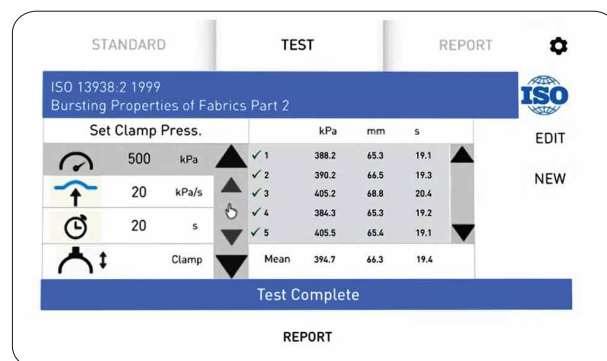
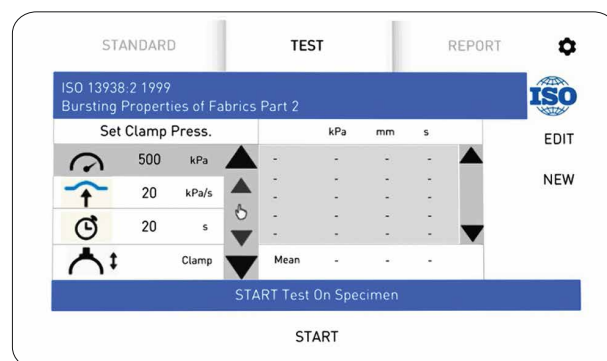
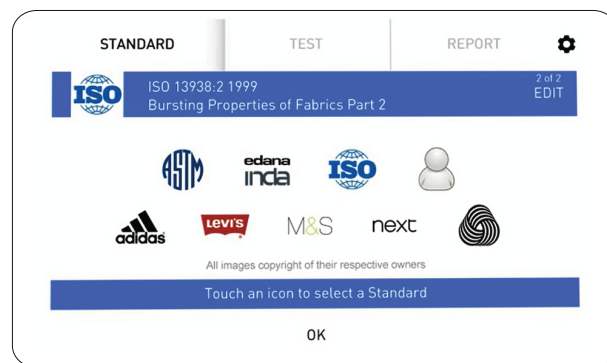
Additionally the **TestWise Pro** software opens up opportunities for research and development engineers as it has unprecedented functionality which enables an extensive variety of test to be performed.

STANDARDS

adidas	ASTM	Edana	ISO
adidas 4.09	ASTM D3786	Edana 80.3 (nonwoven)	ISO 13938-2 ISO 2758 (paper)
M&S	Next	The Woolmark Company	WSP
M&S P27	Next TM22	Woolmark TM 29	WSP 30.2 (nonwoven)

COLOUR TOUCH SCREEN

- The 7 inch colour capacitive touch screen (as used on a Smartphone) is fast and very responsive.
- These images (right) illustrate the clarity of the integral on-board software, which is extremely intuitive for first time users. The clear and uncluttered display maximises user efficiency and significantly minimises training time.
- Required standards can easily be selected via the relevant icon on the start-up screen.
- The software is also designed to minimise the number of key strokes required to set-up and activate the test. Many of the parameters are only one keystroke away which contributes significantly to greater user and instrument efficiency.
- The dome clamp pressure is set through the software. Previously it was necessary to manually adjust the pressure as required. Moving the control of the dome pressure into the software makes this process very simple. The dome pressure used during the test is also recorded in subsequent reports.
- The screen angle is ergonomically designed to give the optimum "fit" between the users and the instrument. This makes the screen very easy to use and maximizes productivity by reducing operator discomfort.
- User defined standards for Burst tests can be created for specific products which can include a defined clamp pressure. Using the same standard across multiple sites helps to maintain consistency of results.
- The on-board software enables TruBurst⁴ to be operated independently of a PC for bursting strength testing.



The on-board display software has a datalogger, which runs on Windows, enabling all test results to be saved and printed using **TestWise Lite** or **TestWise Pro**.



TruBurst instrument is now available with the James Heal intuitive TestWise software, 'TestWise for TruBurst', of which there are two versions:

- As standard, TruBurst is supplied with **TestWise Lite (794-993)**. This allows test results to be saved to a PC and printed.
- If access to the more advanced features such as cyclic, rapid fatigue, extension and recovery and user-defined tests, export to Excel is required, then **TestWise Pro**, with a Dongle (794-994) should be purchased

TestWise Pro has enhanced features including enabling the user to have full control of the test parameters, offering users the facility to set-up complex exercise, recovery and fatigue tests. This facility will undoubtedly be of interest to users and companies involved with product Research & Development and to laboratories who wish to offer a wider variety of tests.

TestWise Pro - Main Benefits

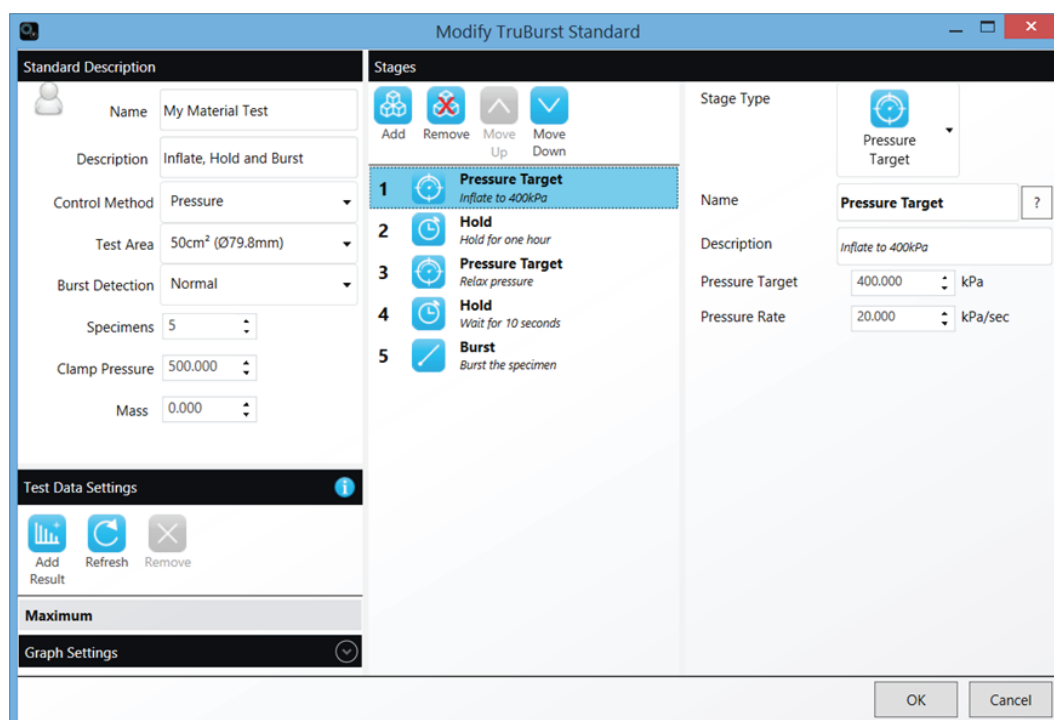
- Burst, Cyclic, Rapid fatigue and Extension & Recovery.
- The user can build their own tests to specifically match their own testing requirements.
- The instrument data can be viewed live during a test.
- The raw data from the test can be exported to Excel and manipulated as required by the user.

Build user defined Tests

TestWise Pro gives the user full control over the test parameters to enable complex exercise, recovery and fatigue tests to be easily and intuitively created.

Commonly used tests are available within **TestWise Pro** enable accurate and efficient bursting and fatigue tests to be conducted on textiles and other materials. However it is the ability for the user to configure their own tests which will be invaluable to many companies.

New, user-defined tests, can be created using '**Stages**', a function which enables a new test sequence to be simply built-up by adding '**stages**' to a list. The screenshot below shows the various stages which can be configured by the user to modify or create their own tests.

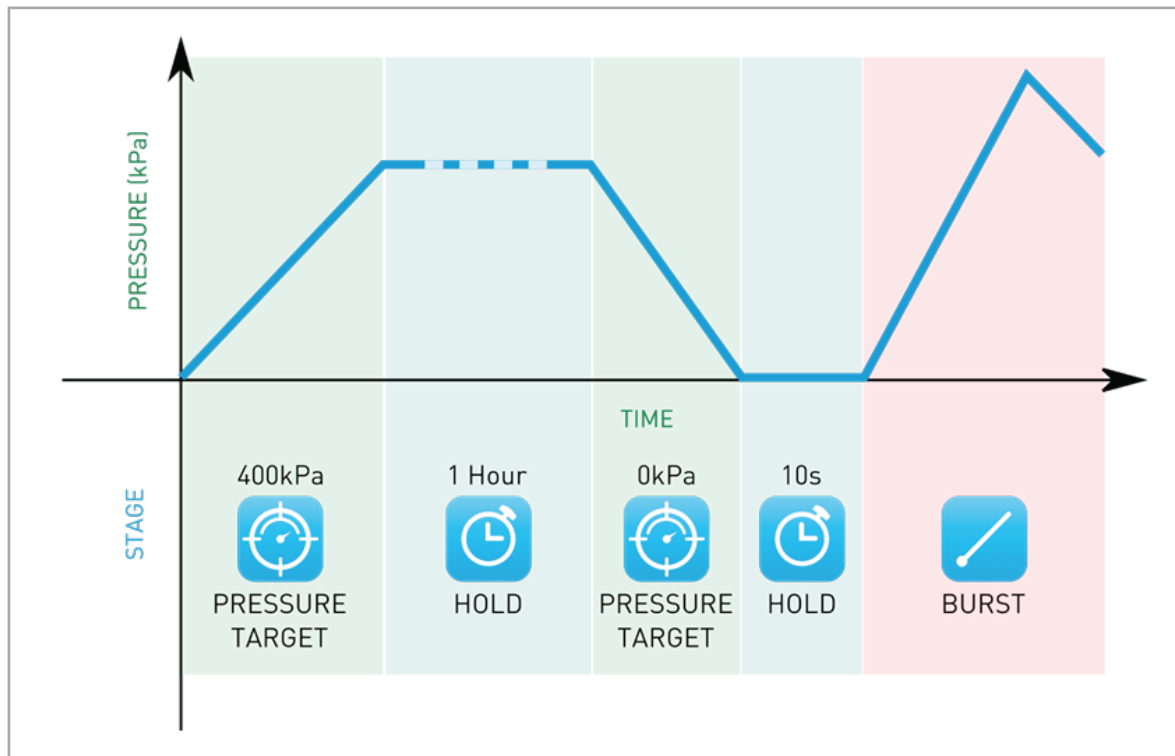




Build user defined Tests (continued)

The graphic below illustrates the process of creating user-defined tests. Any type of material test can be created by building up a sequence of Stages.

Test Stages - An illustrative example



For illustration only - this graphic is not featured within the software.

Configurable Stages

Pressure Target : The software enables the instrument to be configured to inflate to a certain pressure and can also determine the rate at which the inflation occurs.

Distension Target : The software specifies a specific height to which the material is inflated. Burst detection is always active and will finish any test immediately once the material bursts.

Hold : The time to hold the current inflation pressure or distension can be specified in Hours, Minutes and Seconds.

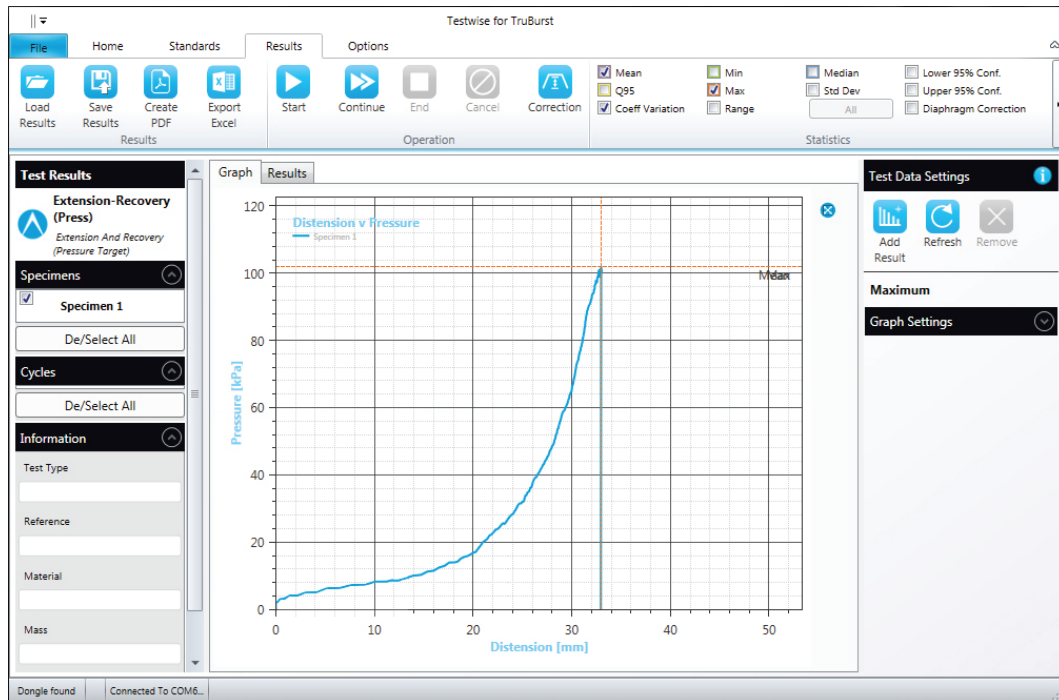
Pressure and Distension Cycles : This setting determines the number of time the material cycles. Holding at each cycle is also configurable within the software.

Burst : This stage will inflate the material until it bursts and would be the final stage for any test.



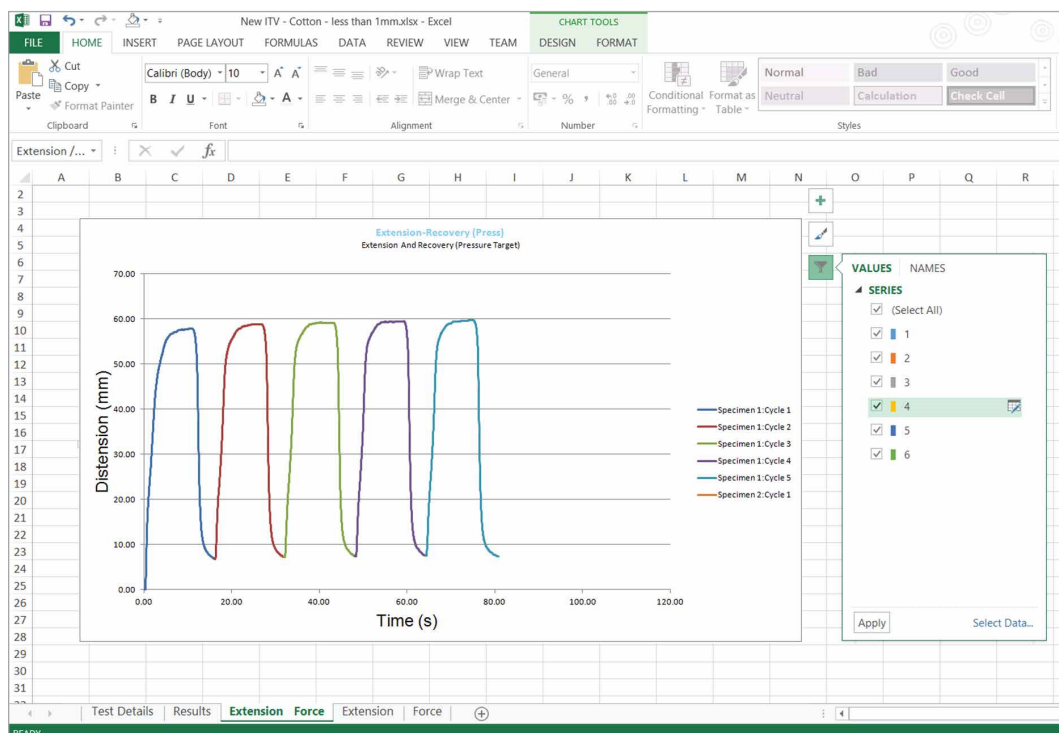
Live Instrument Data

- Live graphing of Burst, Cyclic and Stretch & Recovery testing.
- Distension, Pressure and Time are recorded in real time.
- The material's properties can be quickly visualised.
- The captured data can be saved for subsequent examination and analysis.

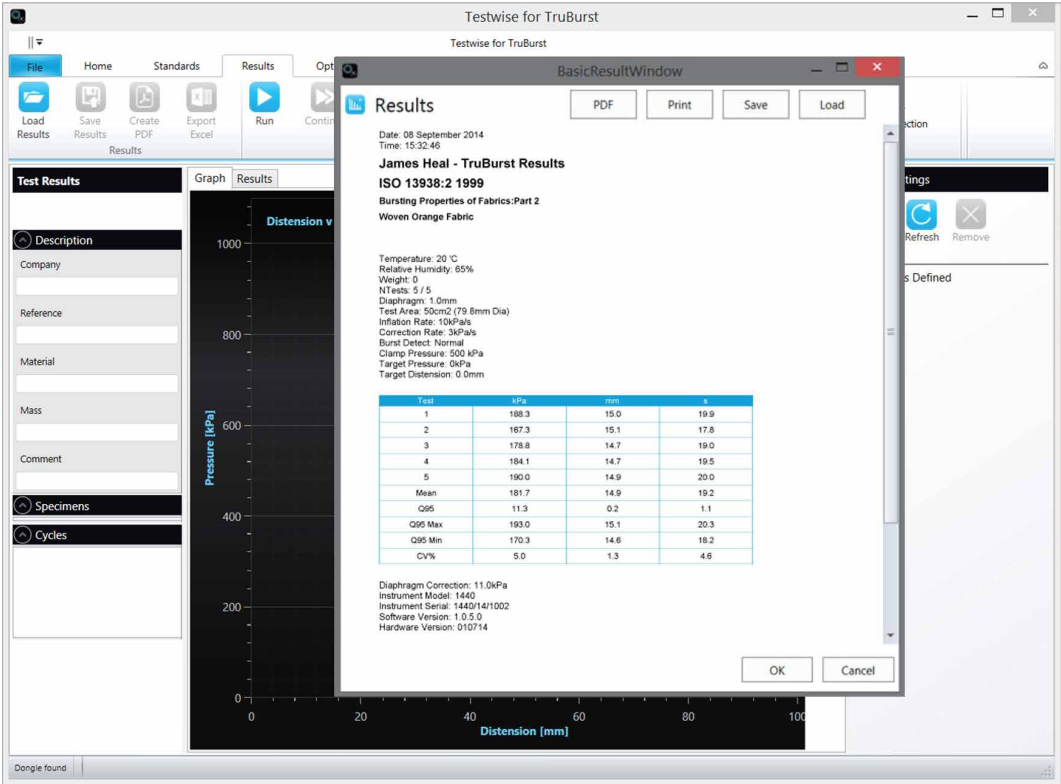


Export to Excel

- The software has intelligent export to Excel (.xlsx) and PDF.
- Graphs are automatically created for Distension vs Pressure, Distension vs Time and Pressure vs Time.
- This enables the instant visualisation of the material's properties.



- Results available include:
- Inflation Rate, Correction Rate, Burst Detection, Clamp Pressure, Target Distension, Target Pressure, Time to Burst, Diaphragm Correction
 - Statistics and graphical analysis, tables of individual results and averages.
 - Plus basic information such as date and time of test, standard title, specimen description and procedure settings.



TruBurst is supplied as standard with TestWise Lite for TruBurst (794-993). To access the more advanced features of TestWise 794-994 is required.

Code	Product
794-994	TestWise Pro for TruBurst

Supplied with Licensing Dongle to access additional features such as Burst, Cyclic, Rapid fatigue, Extension & recovery and Users designed tests.

TESTWISE FOR TRUBURST

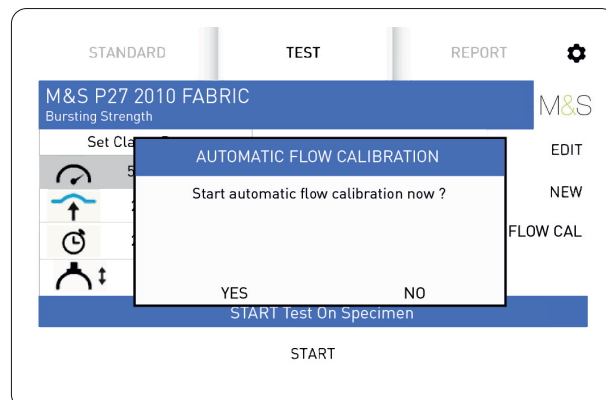
The introduction **TestWise Pro** software to TruBurst, highlighted on the previous pages, is the most significant single improvement to the instrument. However many other major features and benefits are detailed below.



AUTOMATIC FLOW CONTROL CALIBRATION

TruBurst⁴ provides the unique feature of automatic flow control for M&S P27 and adidas 4.09.

This offers tremendous time-savings for the operator and also creates opportunities for a greater number of tests to be performed. Importantly, this feature also increases accuracy, consistency and reliability of the results.



On other instruments of this type, to set the flow control it is necessary for the user to iteratively set the valve, time the flow with a stopwatch, and then calculate the flow rate - and repeat until the flow rate is correct. With TruBurst⁴ this process is automated so the time-consuming process, involving pressure adjustments and is eliminated.

Other instruments may claim to be able to carry out test to M&S P27 however TruBurst is **approved by Marks & Spencer for bursting strength**.

LASER DISTENSION MEASUREMENT

TruBurst⁴ is equipped with non-contact laser distension measurement which ensures precision accuracy and excellent repeatability of test results.

This also offers an advantage with regard to reliability and diaphragm life.



TOOL FREE DOME CHANGE

TruBurst⁴ has five interchangeable domes with the software automatically recognising the dome size. Dome changing is tool free to accelerate testing and reduces instrument downtime.

Changing the diaphragms is an operation that only takes seconds and is easily performed by the user without the involvement of maintenance.



EASY TO FIT CLAMPING RING

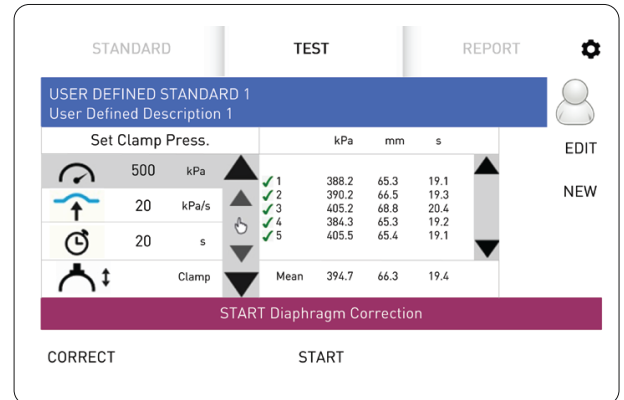
The bottom clamp ring features a locating flat, which is now at the front of TruBurst⁴

This enables quick and easy assembly and also eliminates the risk of misfitting the clamp ring.



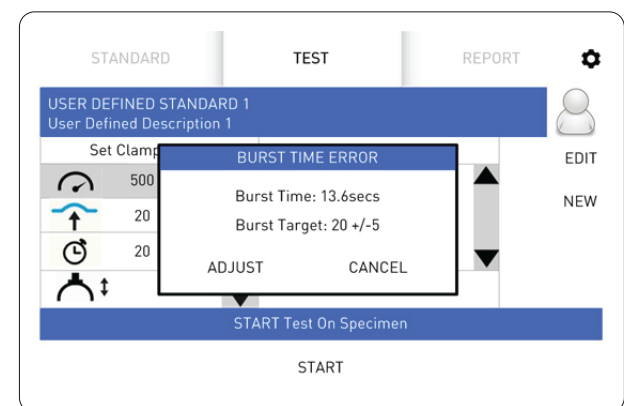
DIAPHRAGM CORRECTION

The software will prompt the user to do a diaphragm correction after tests on the specimens have been carried out. The user can then choose whether to action a diaphragm correction.



AUTOMATIC TIME TO BURST

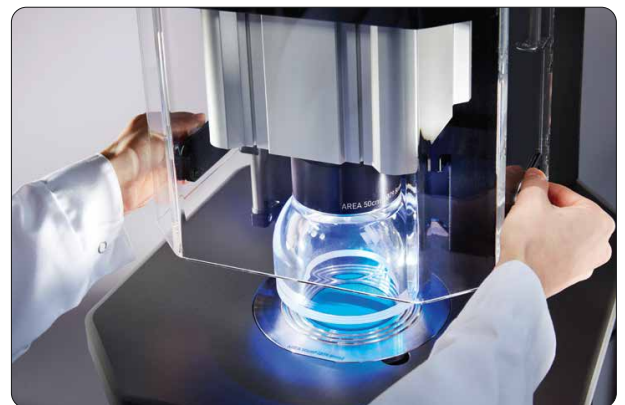
For ISO 13938-2 and similar standards, the method requires the user to burst a specimen within $20s \pm 5s$. TruBurst⁴ will display a warning message if the specimen does not burst within the specified time. If instructed the instrument will then automatically adjust to the correct pressure rate to give the correct burst time.



LIFTING SAFETY GUARD

On previous models valuable laboratory bench space was taken up by the removal of the guard while the tests were being set-up.

However on the TruBurst⁴ the guard is now an integral part of the instrument, sliding up to provide easy access and so enables bench space to be better utilized.



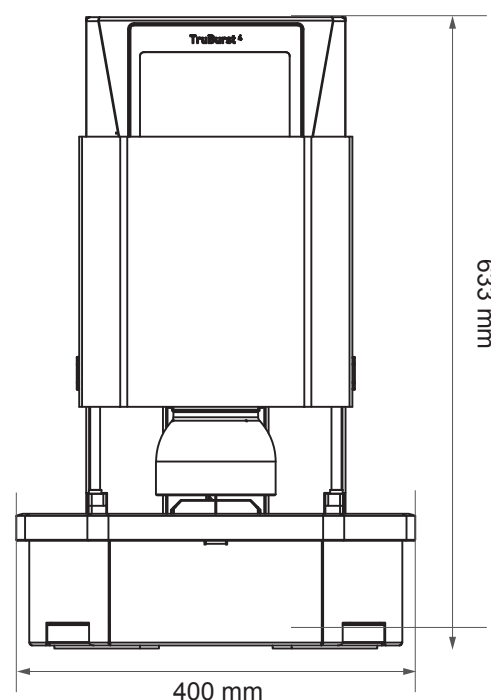
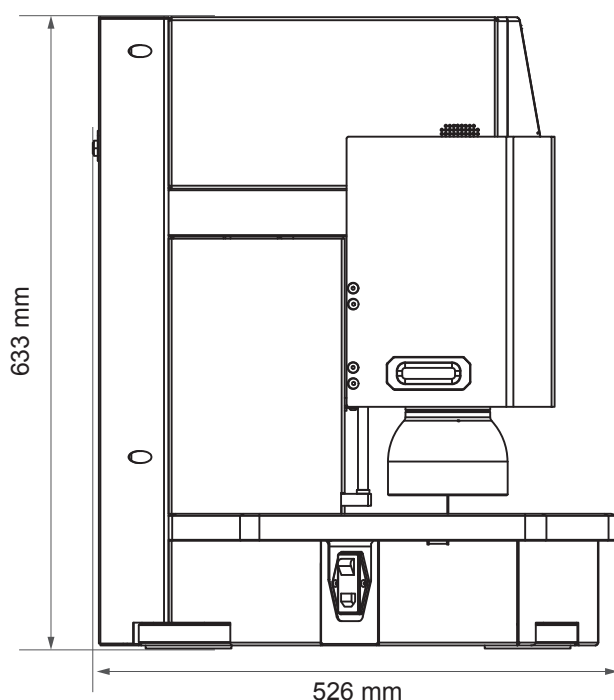
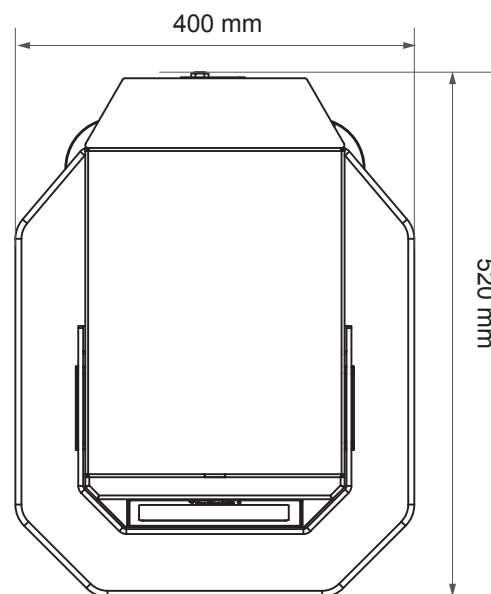
DIMENSIONS & WEIGHT

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

Dimensions (mm)	Height	Width	Depth	Approx Weight (kg)
TruBurst ⁴	633	400	526	69.3*

*Weight of instrument
(including largest dome assembly)

67 kgs + 2.3 kgs = 69.3 kg



POWER & AIR SUPPLY

It is essential that the delivered air supply is clean and dry. The air supply can be delivered via:

- Factory air line (minimum free air delivery 33 litres per min/1.13 cfm)
- Optional compressor

Optional Compressor

- Delivers optimal testing conditions for both conventional burst and cyclic testing
- Expands the upper limit of available pressure from typical factory air lines (to 1000kPa/145psi)
- Supplied with a filter and a regulator

Power	Air Supply	
90 to 264V AC, 50/60Hz,	Input pressure required:	10 bar (maximum)
Single Phase	Minimum free air delivery:	33 litres per min/1.13 cfm
Rating per Phase:(A): 0.5 / 1	Filtration:	5 microns (absolute) or better to remove excess particulates, oil and moisture.
Watts: 60 W		

The pneumatic connection to the machine is 6 mm diameter. An adaptor is supplied to convert 6 mm to 1/4 inch BSP

STANDARD ACCESSORIES

Code	Product
905-511	TruBurst ⁴ Model 1440 90-264V 50/60Hz

Standard accessories included with TruBurst⁴:

Code	Product
142-326	1 x Mains Lead Set Angled
160-486	1 x TruBurst ⁴ Foot switch
327-266	1 x Flexible Black Nylon Pipe (5 m)
794-819	1 x Pneumatic Adaptor for US
794-993	1 x TestWise Lite for TruBurst (supplied without Dongle)
154-195	1 x USB2 Lead A-B Transparent 2m Right Angled

Unless purchasing a Recommended Initial Starting Kit, at least one Specimen Clamp and one pack of Diaphragms should be ordered, in addition to the TruBurst⁴.

RECOMMENDED INITIAL STARTING KITS

Code	Product
794-684	1 x 7.3 cm ² Dome Assembly
794-683	1 x 10 cm ² Dome Assembly
794-682	1 x 50 cm ² Dome Assembly
794-681	1 x 100 cm ² Dome Assembly
777-133	20 x Packs (10) Diaphragms
202-810	1 x UKAS Certificate of Calibration
783-217	1 x Compressor
140-spares	1 x 2-year Spares Kit

SPARE PARTS, SERVICE & CALIBRATION

A **2-year Spares Kit** is available, stock code **1440-spares**, comprising of the items below;

Code	Product
356-399	O-Ring (3)
390-271	Air Filter
390-244	Solenoid/Spring Valve
390-289	Solenoid Valve
390-207	Exhaust Silencer
390-301	Exhaust Silencer (Large)
130-825	Fuse 1A (2)

These items can also be ordered individually.

Service & Calibration: TruBurst⁴ has a 18 month warranty. It is recommended the instrument is serviced and calibrated annually.

TESTWISE FOR TRUBURST



TruBurst⁴ is supplied as standard with **TestWise Lite (794-993)**. To access the more advanced features, **TestWise Pro 794-994** is required. Advanced features include as Burst, Cyclic, Rapid fatigue, Extension & recovery and Users designed tests.

Code	Product	
794-994	TestWise Pro	(Supplied with Licensing Dongle)

PC SPECIFICATION

The requirements for connecting TruBurst⁴ to a Personal Computer are:

- TruBurst⁴ **TestWise Lite** on CD-ROM - supplied as standard or **TestWise Pro** (if ordered) on CD-ROM with Dongle.
- USB2 Lead A-B Transparent 2m Right Angled - supplied as standard.
- PC with a spare USB port running Windows 7 or later operating system - not supplied.

TECHNICAL SPECIFICATION

Pressure Range					
	kPa	psi	kg/cm ²	bar	kN/m ³
Upper Pressure Limit	1000	145	10.20	10	1000
Resolution	0.2	0.04	0.002	0.002	0.2
Distension Range					
	mm	cm	inches		
Minimum	0.1	0.01	0.004		
Maximum	70.0	7.00	2.756		
Resolution	0.1	0.01	0.004		

Specimen Test Area		
Area	Diameter	Maximum Distension
7.3cm ²	30.5mm	30mm
7.8cm ²	31.5mm	30mm
10cm ²	35.7mm	30mm
50cm ²	79.8mm	70mm
100cm ²	112.8mm	70mm

TEST MATERIALS & ACCESSORIES

Test Areas

Code	Product
794-684	7.3 cm ² Specimen Clamp
794-683	10 cm ² Specimen Clamp
794-682	50 cm ² Specimen Clamp
794-681	100 cm ² Specimen Clamp
794-685	7.8 cm ² Specimen Clamp (for Paper)

Diaphragms

Code	Product
777-133	Reinforced Diaphragms (1mm thick) - per 10 packs (10)
777-134	Plain Diaphragms [M&S P27 and Adidas 4.09] (1mm thick) - per pack (10)
777-135	Reinforced Diaphragms (1.5mm thick) - per pack (10)
777-150	Low Pressure Diaphragms (0.2mm thick) - per pack (10)

TruBurst Verification Foils (Only suitable for use with TruBurst^{2/3/4})

Code	Product
766-600	TruBurst Verification Foil No.1 for 50 cm ² Dome - 60-140 kPa - per pack (5)
766-601	TruBurst Verification Foil No.2 for 50 cm ² Dome - 140-260 kPa - per pack (5)
766-602	TruBurst Verification Foil No.3 for 50 cm ² Dome - 280-410 kPa - per pack (5)
766-603	TruBurst Verification Foil No.4 for 50 cm ² Dome - 450-550 kPa - per pack (5)
766-604	TruBurst Verification Foil No.5 for 50 cm ² Dome - 560-700 kPa - per pack (5)
766-605	TruBurst Verification Foil No.6 for 50 cm ² Dome - 750-920 kPa - per pack (5)

Code	Product
766-607	TruBurst Verification Foil No.1 for 7.3 cm ² Dome - 160-270 kPa - per pack (5)
766-608	TruBurst Verification Foil No.2 for 7.3 cm ² Dome - 260-370 kPa - per pack (5)
766-609	TruBurst Verification Foil No.3 for 7.3 cm ² Dome - 370-480 kPa - per pack (5)
766-610	TruBurst Verification Foil No.4 for 7.3 cm ² Dome - 480-620 kPa - per pack (5)

Calibration

Code	Product
202-810	UKAS Certificate of Calibration for TruBurst

Compressors

Code	Product
783-218	Titan Compressor 230V 50Hz
783-217	TruBurst Compressor 230V 50Hz
783-219	Dual Use Compressor (Titan and TruBurst) 230V 50Hz
783-221	Titan Compressor 110V 60Hz
783-220	TruBurst Compressor 110V 60Hz
783-222	Dual Use Compressor (Titan and TruBurst) 110V 60Hz

Dual Use Compressors can be used to supply compressed air to both Titan and TruBurst. They are fitted with two (2) regulators to set the different pressures required and have 4mm and 6mm connections. Compressors are Silver-Line brand and are almost identical in performance and specification to similar Junair models.