



FlexiFrame

STRETCH, GROWTH & RECOVERY INSTRUMENT

An accurate and flexible instrument for testing the stretch, growth and recovery properties of knitted and woven fabrics.

MODEL NUMBER: 1511
STOCK CODE: 904-551 - 3 units, wall mounting
904-555 - 6 units, wheeled base



KEY BENEFITS

COMPLETE FLEXIBILITY

FlexiFrame allows testing of both woven and knitted fabrics on any station to a broad range of test methods.

STANDARDISED AND CALIBRATED

The Flexiframe can be calibrated to ISO 17025, giving you and your customers confidence in the repeatability and accuracy of your results.

OPTIONS TO SUIT EVERY LABORATORY

Supplied as either a portable 6 stations instrument, or wall mounted in multiples of 3, to suit your laboratory environment.

A RANGE OF ACCESSORIES

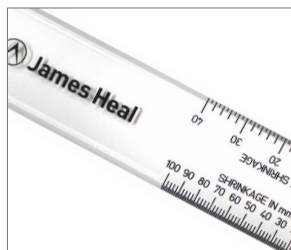
Accessories including weights, rods and wire hangers provide the user with the tools they need to test methods including ASTM D3107, Arcadia AG31, Ralph Lauren and ASTM D2594.

INDEPENDENT TIMERS

Each station is equipped with a timer which can be numbered and taken away from the instrument so the user can complete other tasks.

DIMENSIONAL STABILITY RULER

A ruler which measures stretch and shrinkage in both distance and percentage is an effective way to simplify measurement.



DEVELOPING THE FLEXIFRAME

When developing the FlexiFrame, James Heal researched current methods on the market and found the following problems:

1. Customers were often creating their own devices for testing, which made test results difficult to standardise and required a lot of effort.
2. A tape measure was being used for measurement, which was inaccurate as it was often bent, held in the wrong place and could move during measurement.
3. Two people were required to take the measurements of knitted fabrics, one to hold the tape measure at the top and another to read the measurement, making the process labour intensive.

FlexiFrame is the solution to these problems - we have created an instrument which is completely flexible while also being accurate, standardised and calibrated. It is a comprehensive testing solution for stretch, growth and recovery where the use of a tensile tester would be prohibitive due to time, with each specimen typically requiring several hours.

STANDARDS

Arcadia



RALPH LAUREN

Arcadia	ASTM	Ralph Lauren
Arcadia AG31 (Part II)	ASTM D3107 ASTM D2594	Ralph Lauren

APPLICATIONS



KNITTED STRETCH FABRICS

Knitted clothing including

- Sportswear
- Dresses



WOVEN STRETCH FABRICS

Woven fabrics including

- Stretch Denim
- American Football Pants

THE TESTS

Arcadia AG31

Residual Extension of Woven Fabrics Containing Elastanes

Arcadia

This test is made up of two parts, part one is performed on a constant rate of extension machine such as the James Heal Titan.

For part two, the specimen is held in the upper and lower clamps and extended to 80% of available stretch using the scale attached.

The specimen is then released and measured once.

Ralph Lauren

Test Method for Stretch Properties of Fabrics Woven from Stretch Yarns

RALPH LAUREN

Specimens are sewn into loops and attached to the FlexiFrame with a hanger through the upper clamp. A second hanger is attached to the bottom and an 8lb weight is hung.

Measurements are taken at intervals with and without the weight.

ASTM D3107

Stretch Properties of Fabrics Woven from Stretch Yarns



For part one, a seam is created from which either a 3lb or 4lb weights are hung. After cycling, the sample is hung at full extension and measured at intervals, then removed and measured at intervals.

For part two, the specimen is held in both clamps and stretched to 85%. A measurement is taken after a period of time, then the specimen is released and measured at intervals.

ASTM D2594

Stretch Properties of Knitted Fabrics Having Low Power



This test takes part in two stages. The specimen is sewn into a loop and attached to the top clamp with a hanger.

For stage one, the specimen is attached to the bottom clamp with a hanger and stretched to a predetermined percentage for a period of time. The bottom hanger is removed and the specimen is measured at intervals.

For stage two, a 5lb or 10lb weight is hung from the lower clamp. The specimen is cycled and then hung at full extension and measured.

STRETCH & RECOVERY

USEFUL DEFINITIONS*

Stretch Yarn

A synthetic filament or spun yarn which will stretch under tension and recover quickly upon release.

Stretch Woven Fabric

A woven fabric that is capable of $\geq 20\%$ stretch and recovers almost fully after stretching.

Fabric Stretch

Usually expressed as a percentage, it is the increase in length of a specimen after tension is applied.

Fabric Growth

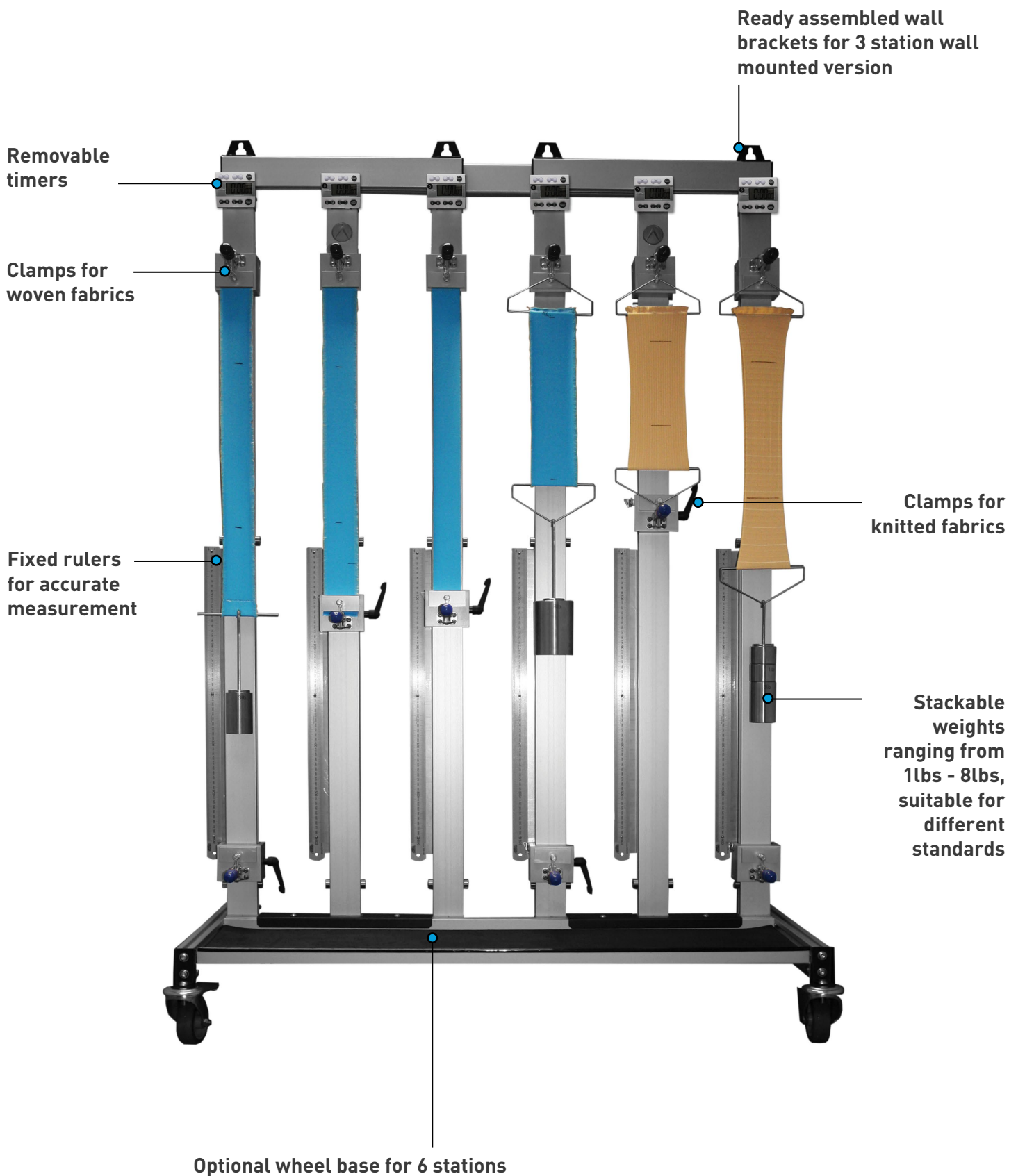
Usually expressed as a percentage, it is the difference in length of a specimen before and after tension is applied and subsequently removed.

Fabric Recovery

Usually expressed as a percentage, it is fabric growth recovered after tension or extension has been applied, measured at specified intervals.

*These terms can differ between laboratories

FLEXIFRAME AT A GLANCE

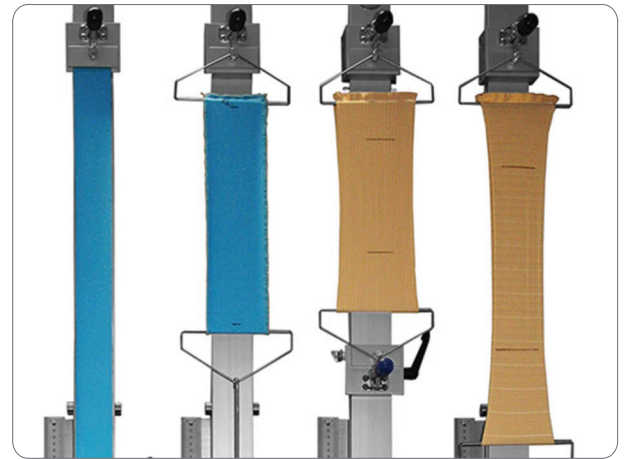


COMPLETE FLEXIBILITY

FlexiFrame offers the user ultimate flexibility for stretch, growth and recovery testing. It allows for the testing of both woven and knitted fabrics on any station to a range of test methods.

Laboratories can perform multiple tests on one instrument, increasing productivity and saving on space.

Current equivalents on the market require two separate instruments to meet these requirements.



STANDARDISED AND CALIBRATED

James Heal offer a Calibration Service for the FlexiFrame, giving you and your customers confidence in the repeatability and accuracy of results.

Dependent on the accessories purchased, a range of parameters can be calibrated by our expert team of engineers to comply with ISO 17025.



INDEPENDENT TIMERS

Each station has an independent timer, which can be used in position or taken away from the instrument, which allows the user to complete other tasks. This makes the FlexiFrame efficient and ensures the user has reduced downtime.



A RANGE OF ACCESSORIES

A range of accessories are available for the FlexiFrame, including:

- wire rods
- 1lb stacking weight
- 3lb weight assembly
- 8lb assembly weight

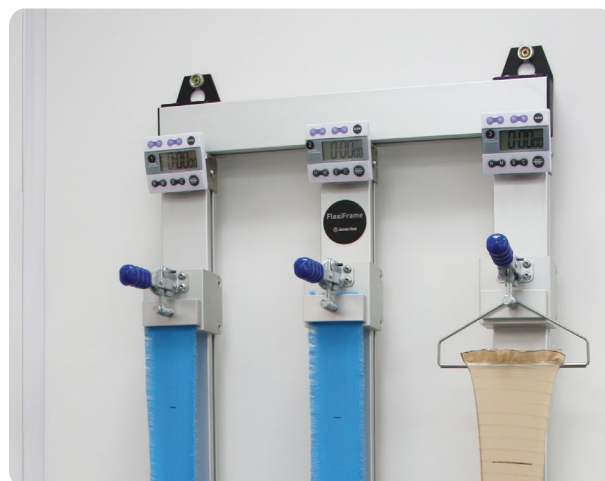
The user can choose everything they require to meet ASTM D3107, Arcadia AG31, Ralph Lauren and ASTM D2594.



OPTIONS TO SUIT EVERY LABORATORY

The FlexiFrame can be purchased as either a portable 6 station instrument on wheels, or as multiples of 3 stations mounted on the wall. Laboratories can chose the best option for them to meet their environment and testing needs.

Please note, the customer is responsible for checking the strength of their wall before putting up the wall mounted FlexiFrame.



DIMENSIONAL STABILITY RULER

The FlexiFrame comes equipped with a dimensional stability ruler, which allows the user to measure the stretch and recovery in both distance and percentage.

It is an effective way to simplify the measurement of results, cutting down on the time to calculate percentages and reducing any chance of user error. It contributes to the accuracy of the FlexiFrame instrument.



FLEXIFRAME INSTRUMENT & ACCESSORIES

Instruments

904-551 FlexiFrame Stretch Tester
3 units, Wall Mounting (Please note there is a discounted price for ordering 2 sets or more) Including standard grips for woven fabrics NOTE: Weights and other attachments must be ordered separately.
904-555 FlexiFrame Stretch Tester
6 Station Wheeled Base Including standard grips for woven fabrics Comprising: 2x 904-551 FlexiFrame Stretch Tester (3 units, Wall Mtg.) 1x 543-390 Wheeled Base NOTE: Weights and other attachments are not included and need to be selected below
201-996 Calibration Certificate
201-996 ISO Calibration Certificate for FlexiFrame - Model 1511

Accessories

Stock Code	Description
309-188	4 Channel Timer with an ISO 17025 A2LA Traceable NIST cert
102-134	Battery for Timer
543-372	Wire Hanger
543-373	Roller for Wire Hanger
543-374	Bar for Weight
543-380	1lb Stacking Weight
543-383	3lb Weight Assembly
543-384	8lb Weight Assembly
772-160	FlexiFrame Stretch Measuring Ruler

ACCESSORIES REQUIRED PER 3 STATION FRAME

	Weights			Hangers		
	543-383 3lb Weight Assembly	543-380 1lb Stacking Weight	543-384 8lb Weight Assembly	543-374 Bar for Weight	543-372 Wire Hanger	543-373 Roller for Wire Hanger
*ASTM D3107 (option 1) – default, with 4lb weight and solid bar hanger	3	3		3		
*ASTM D3107 (option 2) – if requested, with 3lb weight and solid bar hanger	3			3		
*ARCADIA AG31 Part i)						
*Ralph Lauren			3		6	6
^ASTM D2594 with 5lb weight - For loose fitting (comfort stretch) apparel fabrics	2	4			6	6
^ASTM D2594 with 10lb weight - For form-fitting (semi support) apparel fabrics		4	2		6	6
^ASTM D2594 with both 5lb & 10lb weights	2	4	2		6	6

*Woven ^Knitted

FOR ASTM D4964 AND ASTM D6614
YOU MAY ALSO WANT ...

Titan

UNIVERSAL STRENGTHTESTER

For Tension and Compression Testing now with capacity to accommodate tests up to 5000 Newtons (5kN)

MODEL NUMBER: **1410** STOCK CODE: **904-506**
TESTWISE™ SOFTWARE STOCK CODE: **794-896**

The Arcadia AG31 Standard, for testing the Residual Extension of Woven fabrics Containing Elastanes, is a two part test, the first part of which is performed on a Constant Rate of Extension machine, for example the **James Heal Titan**.

We have substantially increased the tension and compression capacities of the latest model of our Universal Strength Tester. The Titan⁵ now provides the capacity to accommodate tests up to 5000 Newtons (5kN).

This increase in capacity, in conjunction with the existing and new enhanced range of tooling, intuitive software and automated processes, gives laboratories the potential to significantly increase the number and scope of tests offered.

With this instrument laboratories will be able to comply with more Standards and perform a wider array of tests on a wider range of product types.



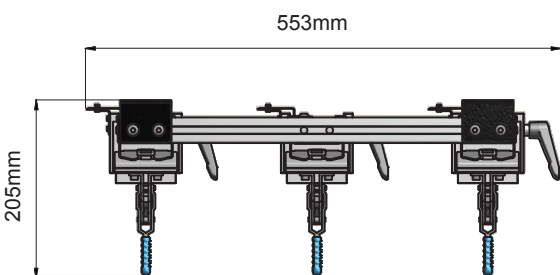
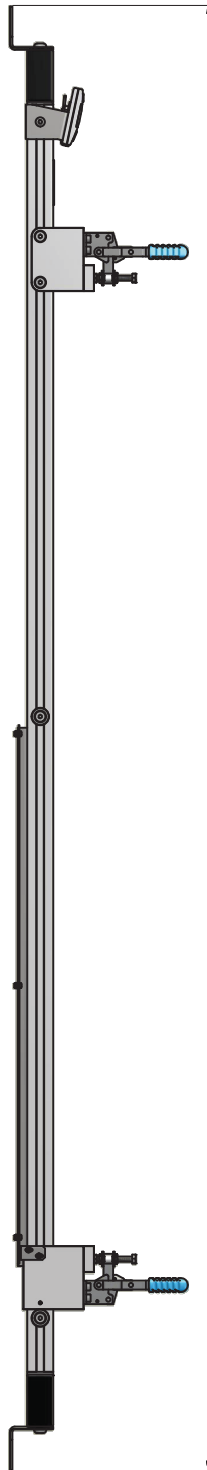
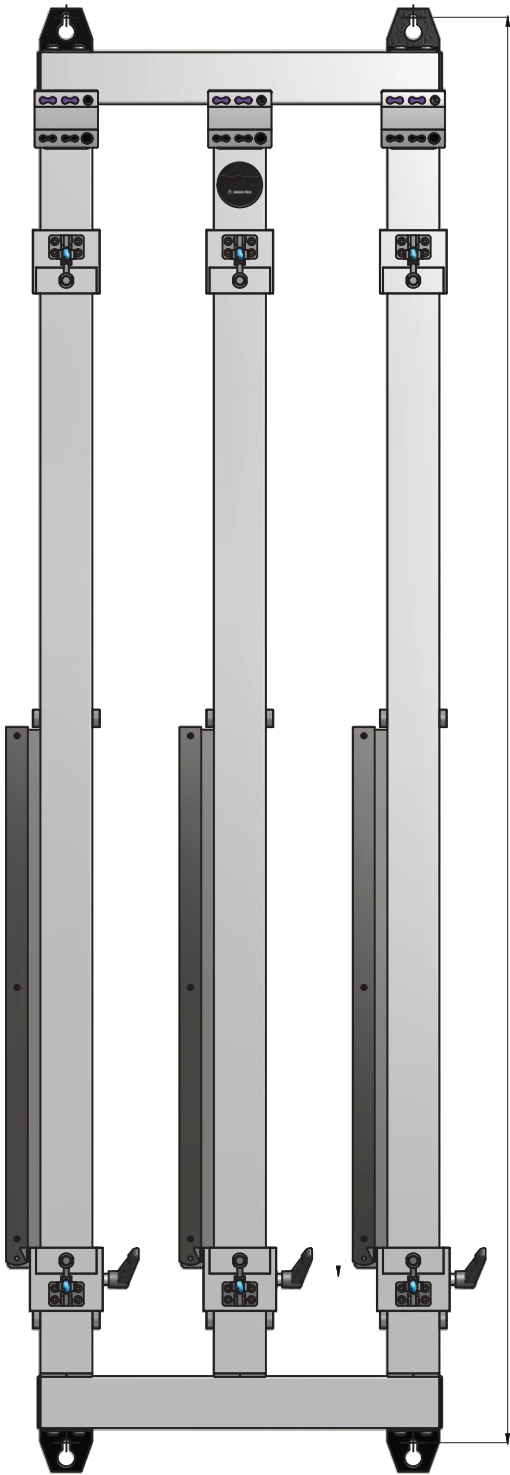
Stock Code	Item	Essential/ Recommended	User Choice dependent on Applications
904-506	Titan ⁵ - Universal Strength Tester 110-230V 50/60Hz	✓	
794-896	TestWise Test Analysis Software	✓	
794-706	Load Cell L11 (500N) 500N - 5N (50kgf - 0.5kgf)		✓
794-705	Load Cell L10 (200N) 200N - 2.0N (20000gf - 200gf)		✓
794-927	T27 Universal Pneumatic Fabric Grips (pair)	✓	
794-877	2 line contact jaw faces 100 x 6mm diameter and 2 plain steel jaw faces 100 x 30mm		✓
794-929	2 line contact jaw faces 75 x 6mm diameter and 2 plain steel jaw faces 100 x 30mm		✓
794-889	T18 Loop Bars (pair)	✓	
794-891	T19 Check Weight Set		✓
794-838	T21 C-Clamps (pair)	✓	
783-218	Titan Compressor 230V 50Hz		✓
783-221	Titan Compressor 110V 60Hz		✓

DIMENSIONS & WEIGHT

WALL MOUNTED FLEXIFRAME (3 STATIONS)

Height (mm)	Width (mm)	Depth (mm)	Approx Weight (kg)
1686	553	205	15.9*

*without attachments

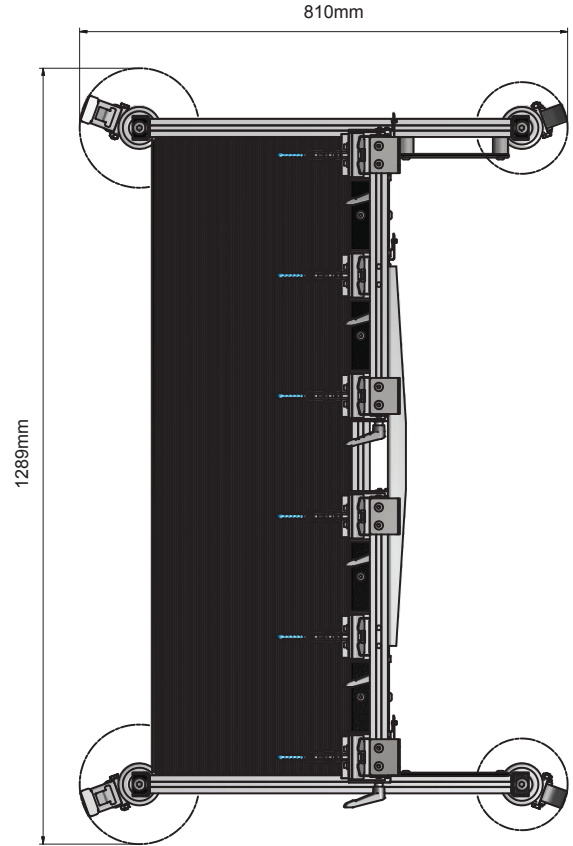
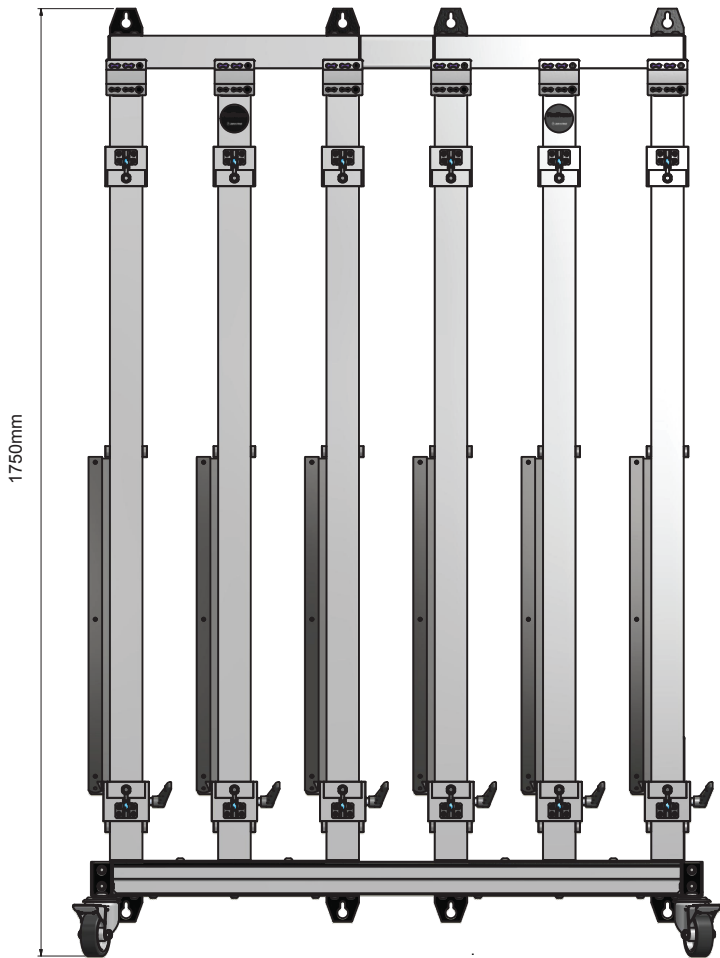


DIMENSIONS & WEIGHT

WHEEL BASED FLEXIFRAME (6 STATIONS)

Height (mm)	Width (mm)	Depth (mm)	Approx Weight (kg)
1750	1289	810	48.3*

*without attachments



INSTALLATION GUIDE

Item	Comment
Electricity	Not required
Air	Not required
Bench or Floor Standing	The 3 station FlexiFrame is wall mounted The 6 Station Wheeled base is to be positioned away from heavy foot traffic area
Water Supply	Not required
Drainage	Not required
Air Extraction	Not required
Conditioning	It is recommended the instruments are located within a conditioned atmosphere

CE Conformity: FlexiFrame is CE marked and is therefore compliant to EC Regulations