

Sigma L/XL

(Extra) Large Area Bond Tester



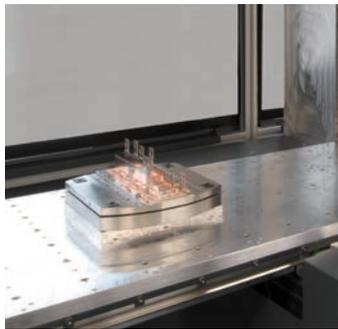
setting
new
standards



Technology leader in bond testing worldwide

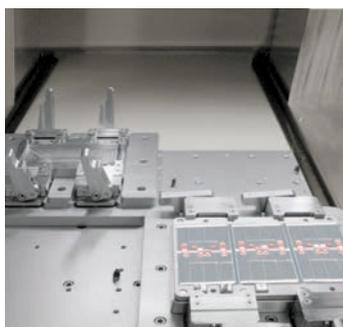
Sigma L/XL

**8 times
larger
working area**



The *Sigma XL* with an extra large working area of 500x800x200mm

**high
positioning
accuracy with
linear
encoders**



Larger working area for flexible positioning and multiple (customized) workholders

Sigma (Extra) Large Area Bond Tester

The *Sigma L/XL* sets a new industrial standard by combining many new advances and features with the unique and proven strengths of our existing *Sigma* series.

Whether you need a dedicated or multipurpose bond tester for large area applications, the *Sigma L* or *XL* is the best choice. The *Sigma L/XL* features unparalleled accuracy, the best ergonomics, highest throughput, full automation capability, maximum flexibility, life time support and the lowest cost of ownership.

For large area applications

XYZTEC has developed a new test system capable of applying accurate shear, pull and push forces for automotive battery applications. The new *Sigma L/XL* can be configured for large area applications such as automotive battery testing and high force applications that involve larger products. This makes the new *Sigma L/XL* the ideal test tool for battery packs and large Panel Level Packaging (PLP).

A range of tooling ensures precise load application to the test point. Quick release sample clamping options ensure accurate testing together with rapid loading and unloading.

Sigma L, Large working area

The *Sigma L*'s large working area of 500 mm in X and Y combined with 200 mm in Z provides flexible positioning and multiple (customized) workholders.

Sigma XL, Extra Large working area

The *Sigma XL*'s provides an extra large test volume of 500 mm in X and 800 mm in Y combined with 200 mm in Z.

Positional accuracy

The *Sigma*'s system stiffness of 0.02 mm / 200 kgf tool to work holder sets a new standard in tester rigidity. High tool to sample positional accuracy enables automation of the most complex circuit architecture. Bond strength is measured with an accuracy of $\pm 0,075\%$.

**10 times
higher
axis speed**

High resolution and soft landing

The *Sigma* family offers digital temperature correction and 24 bit resolution to ensure the accuracy and repeatability of measurement results. The X, Y- and Z stage speeds can be set between 0 mm/s to 500 mm/s while still producing its 200 kg force with micron precision. Intelligent software enables extremely rapid “fly” movements and automatic deceleration as the test area is approached. The large stage travel distances and rapid power up are also standard features of the *Sigma L/XL*. Industry leading shear sensors have programmable landing forces and shear height accuracy confirmed with laser measurement.



Six sensors RMU, up to 200 kgf: Changing cartridges manually no longer required

Application flexibility

Force

The *Sigma* system offers superior flexibility with sensors for shear, push and pull forces from several grams up to 200 kgf. A wide variety of tests is possible with a wide range of tooling selections.

Revolving Measurement Unit (RMU)

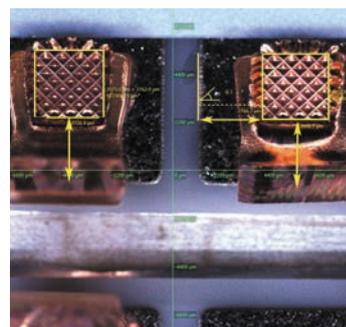
The RMU can be configured with six sensors in any combination of pull, push or shear and goes from tiny forces up to a maximum of 200 kgf. The sensors are permanently and safely fixed to the machine, requiring no warm up time and are always ready to test at the simple click of button.

AOI measuring toolkit

The measurement tool kit offers a variety of options for fully examining samples. The toolkit makes use of advanced image processing software and our advanced high-resolution cameras. Features that can be measured automatically include; largest distance, smallest distance, object area, distance between objects, angle between objects and wire thickness.

Other innovative solutions

- Self-aligning shear tool (patented)
- Deep access tool to enable complex sample architecture
- Up to 6 tweezers, USB fully programmable or mechanical with optional pneumatic actuation
- Inline option for automatic loading



Advanced image measurement by drawing a line or a shape to measure the length, width, height and area

**up time
(OEE)
above 90%**

Specifications

		<i>Sigma L</i>	<i>Sigma XL</i>	
Force sensors	Revolving measurement units (up to 6 sensors)	up to 200	up to 200	kgf
	Ranges 10gf, 100gf, 1kgf, 10kgf, 100kgf, 200kgf			
	Shear sensor deep access	54	54	mm
	Resolution	24	24	bit
	Accuracy	±0,075	±0,075	%
	Minimum landing force	2.5	2.5	gf
	Correlation with other testing systems			
	Digital correction of temperature and creep			
Calibration weights OIMI class M1 or NIST class 1				
Stages	Resolution of built in optical linear encoders	10	10	nm
	X travel	500	500	mm*
	Y travel	500	800	mm*
	Z Travel	200	200	mm
	Axis (X,Y & Z) speed	500	500	mm/s
	Hook concentricity	±10	±10	µm
	Software hook concentricity	±5	±5	µm
	Tool rotation accuracy	±1	±1	°
Mechanical	Length	1200	2400	mm
	Width	1200	1200	mm
	Height	2000	2000	mm
	Weight	1350	1800	kg
Controls	Ergonomic layout to SEMI S8			
	Two ergonomic joysticks with 6 quick access buttons each			
	LED illumination			
Software	Fully compatible with <i>Sigma</i> software			
	Supports Microsoft Windows 7/8/10™, 32 and 64 bit systems			
	Easy to learn intuitive graphical user interface			
	Minimum number of mouse clicks			
	Customizable screens, optimized for wide and touch screens			
	Integrated report editor and data export			
	Easy data sorting, grouping and filtering			
	Integrated SPC and system GR&R analysis			
	Multiple languages, multiple user network environment			
Export to XLS, DOC, PPT, PDF, XPS, CSV, XML, DBF, etc.				
Services	SECS/GEM**			
	1 Phase 100-240VAC 1+N+PE 45-64 Hz 5A			
	3 Phase 207-528VAC 3+N+PE 50-60 Hz 8A			
	MAX OCP device 3x16A			
	SCCR 10 kA			
	300mA earth leakage protection			
Vibration class VC-C (SPIE99)				

Specifications are subject to change without prior notice.

* XYZTEC also offers *Sigma* platforms with larger axis strokes for 12 inch (300mm) wafer testing and other applications.

** Contact XYZTEC for more information and options for your factory.

stay
up-to-date
free software
updates



XYZTEC's international team for sales and service and our international offices

global
presence
local
support



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