

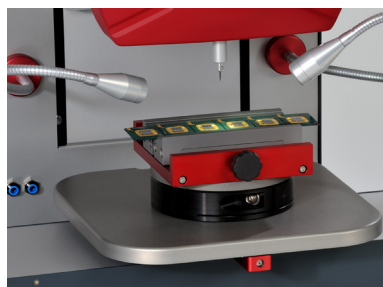
Condor Sigma

Performance and Flexibility

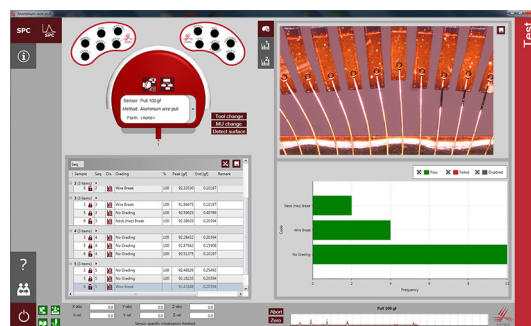
Put it to the test!

With 15+ years in house experience, XYZTEC takes bond testing to a new level with the Condor Sigma. We use the best of established technology together with innovation to set the new standard as technology leader in bond testing world wide. Its broad specifications ensure it has the capability to perform all commonly used industry tests as well as special and challenging applications.

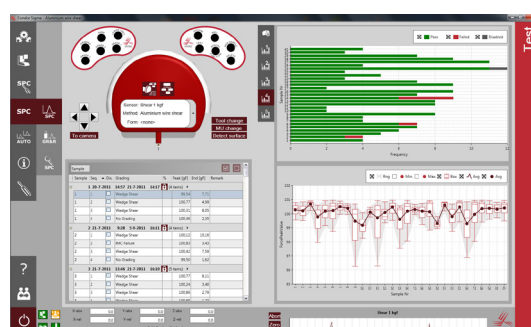
Current users of bond test equipment will find that the Condor Sigma system provides an easy transition from their existing process to the state of the art Condor Sigma platform. Performance is without a doubt best in class, but do not take our word for it. Try it for yourself, and put it to the test!



Compatibility: Use your existing stock of work holders with our shuffle plate.



The Condor Sigma software supports various authorization levels. Shown here is an easy to learn operator screen.



Powerful statistical process control and clear graphs give complete control of your production process to the engineer.

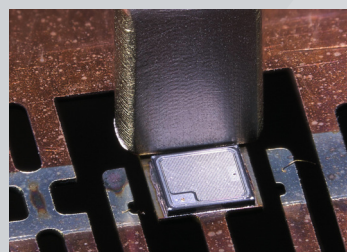
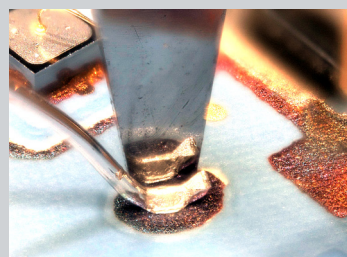
Specifications

Force sensors	Revolving measurement units (up to 6 sensors) Single measurement units (1 sensor) Ranges 10gf, 100gf, 1kgf, 10kgf, 100kgf, 200kgf Maximum Shear force Maximum Pull and Push force Accuracy Resolution Minimum landing force Correlation with other testing systems Digital correction of temperature and creep Calibration weights OIMI class M1 or NIST class 1	200 kgf* 200 kgf* ±0.075 % 24 bit 2.5 gf
Stages	Resolution of built in optical linear encoders X travel Y Travel Z Travel Axis (X,Y & Z) speed Hook concentricity Tool rotation accuracy	30 nm 370 mm** 168 mm** 168 mm 50 mm/s ±10 µm ±1 °
Frame	Foot print X Foot print Y Height Weight	620 mm 558 mm 608 mm 75-85 kg
Controls	Ergonomic layout to SEMI S8 Microscope moves in focal arc and swivels to side for easy access Microscope adjustable in X & Y and through complete Z travel Keyboard drawer Two ergonomic joysticks with 6 buttons each LED illumination	
Work holders	Maximum flexibility for large sample sizes Quick release, high force and positional accuracy interface Compatible with previous XYZTEC and competitor tooling	
Software	Supports Microsoft Windows 7/8™, 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	Electric 110-240V single phase no air required	

Specifications are subject to change without prior notice.

*XYZTEC also offers the Condor 150HF for testing up to 500kgf.

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



Technology leader in bond testing worldwide





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



Quick change release: Change work holders in seconds.



Ergonomic joysticks: Full control at your finger tips.

Performance and flexibility

The Condor *Sigma* is the most advanced bond tester on the market, combining the unique strengths of the Condor series with the latest technologies and innovations. Whether you need a dedicated or multipurpose bond tester, the Condor *Sigma* is the best choice featuring unparalleled 0.075% accuracy, the best ergonomics, highest throughput, maximum flexibility and the lowest cost of ownership.

Use existing stock of tools and work holders

The system is designed to be compatible with the most commonly used work holders and tooling, you may already have in stock. Compatibility modes ensure consistency in measurement results across machines. Equipped with the most powerful intuitive software, operators can quickly learn to use the Condor *Sigma* alongside your existing equipment and procedures.

Revolving Measurement Unit

XYZTEC is well known for many innovative bond testing solutions. The Revolving Measurement Unit (RMU) being a good example that was derived from a better understanding of our customers needs. The *Sigma* RMU raises new standards with the capability to be configured with 6 sensors in any combination of pull or shear and ranges from 10gf to 200kgf. The sensors are permanently and safely fixed to the machine, require no warm up time and are always ready to test at the simple click of button.

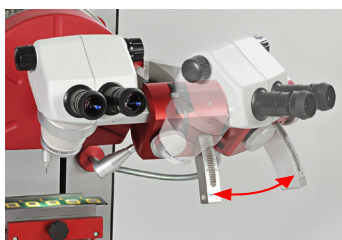
Condor Sigma

Put it to the test!

- ball shear
- bending test
- calliper
- cavity shear
- cold bump pull
- die shear
- fatigue test
- high speed impact test
- overhanging die
- passivation layer gold ball shear
- probe
- ribbon peel
- ribbon pull
- solder ball shear
- stud pull
- total ball shear / zone shear
- tweezer pull
- vector pull
- wedge and ribbon shear
- wire pull
- creep test
- lead integrity / micro torsion
- lid torque
- smd shear
- spring rigidity
- copper pillar
- loop height



**maximize
your tests
per minute**



Easy sample loading: Retractable microscope.

Built-in image capture and automation camera

The standard configuration contains a rigidly fixed perpendicular automation camera at a small offset from the test point with a choice of 3 magnifications and optical resolutions down to 1.5µm. Unique to the *Sigma*, a second perpendicular camera can be added enabling you to select from multiple magnifications. This is particularly useful when you need a large field of view for automation but a high magnification for image capture.

The software can support up to three live camera views at the same time, as might be needed for a microscope- or side view camera. The Condor *Sigma* is the only fully automatic bond tester with a 6 sensor RMU and advanced image recognition.

Soft landing and high resolution

The Condor *Sigma* can perform a wide variety of tests with forces ranging from less than 0.1gf to 200kgf. Its digital temperature correction and the world's highest resolution of 24 bits provide best in class accuracy and repeatability of measurement results. The XY- and Z stages can be programmed to travel aware from 0mm/s to 50mm/s and produce up to 200kg force all with submicron precision. Intelligent software enables extremely rapid movements and automatic slowing down as the test area is approached. Large stage travel distances come as standard and rapid power up is guaranteed with multiple home positions. Shear sensors have the most precise step back accuracy in the industry and programmable landing forces.

Modular and open design

All sensor modules are interchangeable and fit any single head or Revolving Measurement Unit. Fully calibrated and tested, each sensor module can be removed and replaced within a few minutes.

The open frame design and large stroke of all three stages offer the capability to handle the widest range of sample sizes with little or no special tooling. Easy microscope adjustment, high accuracy quick release work holders and measurement units together with programmable load/unload positions ensure rapid production setup and the highest possible throughput. In the same way these features enable the safest and fastest product changeover.