



## Condor Sigma » Specifications



Condor Sigma Lite with Revolving Measurement Unit, 168mm X-stage, universal workholder, two LED snake lights, EZ microscope support and monitor support

### A bondtester that can grow with your company

The Condor Sigma series has broad specifications as you will find below. It has a maximum force capability of 200 kgf shear and 200 kgf push or pull, fast moving 370 mm X-stage and an unparalleled 0.075% accuracy.

However, it is also possible to select a system that goes up to 100 kgf shear and 10 kgf push or pull and is fully upgradeable later. With **Condor Sigma Lite** XYZTEC gives you a low cost entry point without sacrificing performance to meet future demands.

The **Condor Sigma W12** version was specifically designed for 300mm wafer testing. If your application requires forces higher than listed below, check out the **Condor 150HF (high force)** which offers an extreme specification of **500 kgf**.

The production process is ISO9001, ISO13485 and ISO14001 certified.

### Specifications



Force sensors

Sigm a Lite	Sigm a	Sigm a	Sigm a	Sigm a L	Sigm a XL	Sigm a HF
200k	200k	10kgf	200k	200k	200k	1000
gf	gf	gf	gf	gf	gf	kgf

Revolving Measurement Unit (RMU) max. 6 sensors up to  
Single Measurement Unit (SMU) 1 sensor up to

200k	200k	10kgf	200k	200k	200k	1000
gf	gf	gf	gf	gf	gf	kgf

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- Distributors

#### Bond testers

- Condor *Sigma*
- Condor *Sigma Lite*
- Condor *Sigma W12*
- Condor *150HF*

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Rotational shear forces up to	10kgf	10kgf	10kgf	10kgf	10kgf	10kgf	1000 kgf
Shear, pull, push forces up to 10kgf (10gf, 100gf, 1kgf, 10kgf)	✓	✓	✓	✓	✓	✓	✗
Shear, pull, push forces up to 200kgf (100kgf, 200kgf)	✓	✓	✗	✓	✓	✓	✗
Shear, pull, push forces up to 1000kgf (500kgf, 1000kgf)	✗	✗	✗	✗	✗	✗	✓
Shear sensor deep access	54m	54m	54m	54m	80m	80m	80m
	m	m	m	m	m	m	m
Up to 6 Tweezers (USB, Mechanical, Pneumatic actuation)	⊕	⊕	⊕	⊕	⊕	⊕	✗
Stages	Sigm a Lite	Sigm a	Sigm a	Sigm a	Sigm a L	Sigm a XL	Sigm a HF
							W12 MAG
X-stage	168 mm	370 mm	500 mm	600 mm	500 mm	500 mm	500 mm
Y-stage	168 mm	168 mm	370 mm	168 mm	800 mm	500 mm	500 mm
Z-stage	168 mm	168 mm	90m	168 mm	200 mm	200 mm	200 mm
Axis speed	5mm/s	50m/s	50m/s	50m/s	500 mm/s	500 mm/s	500 mm/s
Resolution <b>linear encoders</b>	30nm	30nm	30nm	30nm	10nm	10nm	10nm
No trade-off between axis speed and force	✓	✓	✓	✓	✓	✓	✓
Backlash free direct drive (no gear box)	✓	✓	✓	✓	✓	✓	✓
<b>13500W 518x513mm heater stage</b>	✗	✗	⊕	✗	✗	✗	✗
Accuracy	Sigm a Lite	Sigm a	Sigm a	Sigm a	Sigm a L	Sigm a XL	Sigm a HF
							W12 MAG
Accuracy	0,2%	0,075%	0,075%	0,075%	0,075%	0,075%	1%
		%	%	%	%	%	
ADC resolution	16 bit	24 bit	24 bit	24 bit	24 bit	24 bit	24 bit
Sampling frequency	2 kHz	10 kHz	10 kHz	10 kHz	10 kHz	10 kHz	10 kHz
Stepback accuracy ±1 µm	✓	✓	✓	✓	✓	✓	✓
Programmable landing force down to 2,5 gf	✓	✓	✓	✓	✓	✓	✓
1° sensor rotation resolution	✓	✓	✓	✓	✓	✓	✓
Software tool concentricity correction ±5 µm	✓	✓	✓	✓	✓	✓	✓
Tool rotation accuracy ±10 µm	✓	✓	✓	✓	✓	✓	✓
Digital temperature correction	✓	✓	✓	✓	✓	✓	✓

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ADC with flat pass band filter	✓	✓	✓	✓	✓	✓	✓
Frictionless pull and shear sensors	✓	✓	✓	✓	✓	✓	✓
Automatic electromagnetic damping	✓	✓	✓	✓	✓	✓	✓

Accessories	Sigma Lite	Sigma a	Sigma a W12	Sigma a MAG	Sigma L	Sigma XL	Sigma HF
Perpendicular cameras (High resolution CMOS 6,41 MP)	3	3	3	3	2	2	5
Head mounted cameras (no tool-camera-offset)	✗	✗	✗	✗	✗	✗	3
LED snake light	✓	○	✓	○	○	○	○
LED ring illumination	○	✓	○	✓	✓	✓	✓
Full automation	○	○	✓	○	○	○	○
Fiducial recognition	○	○	✓	○	○	○	○
Barcode reader	✓	✓	✓	✓	✓	✓	✓
Customized (heated) workholders	✓	✓	✓	✓	✓	✓	✓
Magazine handler (Leadframe loader) integration	✗	○	✗	✓	✗	✗	✗
Wafer handler (Equipment Front End Module, EFEM) integration	✗	○	○	✗	○	○	✗
Waffle tray handler (loader) integration	✗	✗	✗	✓	✗	✗	✗
Keyboard drawer	✓	✓	✓	✓	✗	✗	✗
(Dual) monitor support optional with touch screen	○	✓	✓	✓	✓	✓	✓
Monitor stowing position	✓	✓	✓	✓	✓	✓	✓
Onboard tool storage	○	○	○	○	○	○	○
Blower and vacuum tool cleaning unit	○	○	○	○	○	○	○
CBP Jaw Cleaner (contactless)	○	○	○	○	○	○	✗

Software	Sigma Lite	Sigma a	Sigma a W12	Sigma a MAG	Sigma L	Sigma XL	Sigma HF
Supports Microsoft Windows 10™, 8™, 7™, 32 and 64 bit systems	✓	✓	✓	✓	✓	✓	✓
Easy to learn intuitive graphical user interface	✓	✓	✓	✓	✓	✓	✓
Minimum number of mouse clicks	✓	✓	✓	✓	✓	✓	✓
Customizable screens (wide and touch)	✓	✓	✓	✓	✓	✓	✓
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, KLARF, INF, etc.	✓	✓	✓	✓	✓	✓	✓
Vision enhanced materials testing	○	○	○	○	○	○	○

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Automated Optical Inspection (AOI), image measurement, auto grading  
SECS/GEM\*  
MES\*

✗	○	○	○	○	○	○
○	○	○	○	○	○	○
○	○	○	○	○	○	○

### Other specifications

Synchronized digital inputs  
Synchronized digital and analogue outputs  
Tool protection in all directions  
Quick release workholders  
Rigid and durable frame  
Covers quickly and easily removed for maintenance  
Debris management  
Excellent correlation with other testing systems  
Compatible with existing tools, workholders, jigs  
Ergonomic layout to SEMI S8  
Two ergonomic joysticks with 6 buttons each  
Microscope moves in focal arc and swivels to side for easy access  
Microscope adjustable in X & Y and through complete Z travel  
EMC compliant  
CE compliant  
Semi S2 safety cabinet  
ISO9001, ISO13485 and ISO14001 certified production  
Calibration jigs with maximized lever arm lengths  
Calibration weights OIMI class M1 or NIST class 1  
1 Phase 100-240VAC+N+PE  
3 Phase 207-528VAC+N+PE  
No air supply required  
Compressed air

Sigm a Lite a   Sigm a   Sigm a   Sigm a L   Sigm a XL   Sigm a HF  
W12 MAG

✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
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✓	✓	✓	✓	✗	✗	✗
✓	✓	✓	✓	✗	✗	✗
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✗	○	○	○	✓	✓	✓
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○	○	○	○	○	○	○
○	○	○	○	○	○	○
✓	✓	✓	✓	✓	✓	✓
✗	✗	✗	✗	✓	✓	✓
✓	✓	✓	✗	✗	✗	✗
✗	✗	✗	✓	✗	✗	✗

### Mechanical

Footprint X

Sigm a Lite a   Sigm a   Sigm a   Sigm a L   Sigm a HF   Sigm a XL  
W12 MAG

620	620	1300	1800	1200	1200	1200
mm	mm	mm	mm	mm	mm	mm
558	558	935	900	1200	1200	2400
mm	mm	mm	mm	mm	mm	mm
608	608	608	1100	2000	2000	2000

Footprint Y

Height

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Weight	mm	mm	mm	mm	mm	mm	mm
	±80k	±80k	±100	±160	±130	±130	±180
	g	g	kg	kg	0kg	0kg	0kg

- ✔ Standard
- ⊕ Optional
- ✘ Not available

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

Specifications subject to change without prior notice.



Ergonomic view Condor Sigma in 3D

## Condor Sigma series and ergonomics

[Click here](#) to learn about the **ergonomics** of the Condor Sigma.

## Contact us

Did we catch your attention? Please **contact us** for more information or to request a demonstration or a quotation.

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