

Impact solder ball shear

## Impact Measurement Unit

- High speed impact test
- Very large samples no problem
- Complete wafers possible
- Elevated sample temperature option
- Programmable impact energy and rate of strain
- Fatigue impact testing

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## Cost effective solution that can be fitted to a XYZTEC Condor Classic

Impact testing is an optional measurement unit (not a completely different machine) that can be installed on to a XYZTEC Condor Classic saving cost and space. The test is based on the long established Charpy pendulum method but with precision sensors that measure the test force on the shear tool and its position enabling accurate Force versus Displacement graphs of the test.



Condor with impact unit

Because the tool moves not the test piece, large and heavy samples present no problem. Similarly heated sample chucks can be used to test the bond at elevated temperatures as may be the case in real life loading conditions. The pendulum design also allows test impact energy and

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### **Other offices**

- Germany  
- Taiwan  
- Thailand  
- United Kingdom  
- USA: California  
- USA: Massachusetts  
- [Distributors](#)

### **Bond testers**

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

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rate of strain to be selected. These may be configured to cause the bond to fail on the first impact or after many impacts if the fatigue life is of more interest ([see our page on impact testing](#)).

Specification  
Force measuring

Position measuring

Output metrics

Maximum test speed

Maximum sample size [WxDxH]

Maximum sample weight

Heated sample maximum temperature

Specifications subject to change without prior notice. Larger/heavier samples may be possible. [Contact us](#) for more information.

## Contact us

Did we catch your attention? Please [contact us](#) for more information or to request a demonstration or a quotation.

## Contributors

The development of the IMU was made possible by:

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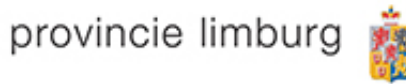
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## Relevant applications

- High speed impact
- Fatigue test

	Pad lift
	Substrate crater
	Fail at copper interface
	Spheres detach before assembly
	Fail in IMC

Failure modes

## Special applications

Please [contact us](#) if you have any special tweezer requirements.

## Download article

[Click here](#) to download the article "[Alternative Testing Methods for Electronic Assemblies](#)" (PDF) by Mathias Nowottnick and Andrej Novikov from the University of Rostock and Dirk Schade and Bob Sykes from XYZTEC.

## Download article

[Click here](#) to download the article "[Effect of Temperature on Transition in Failure Modes for High Speed Impact Test of Solder Joint and Comparison with Board Level Drop Test](#)" (PDF) by Pradosh Guruprasad and James Pitarresi, Binghamton University, USA and Bob Sykes, Chief Technical Officer for XYZTEC.

## Download article

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High Speed Impact Test of Solder Joint and Comparison with Board Level Drop Test" (PDF) by Pradosh Guruprasad and James Pitarresi, Binghamton University, USA and Bob Sykes, Chief Technical Officer for XYZTEC.

## Presentation

Click [here](#) to download the article "Alternative Testing Methods for Electronic Assemblies" (PDF) by Mathias Nowottnick and Andrej Novikov from the University of Rostock and Dirk Schade and Bob Sykes from XYZTEC.

## Relevant test types

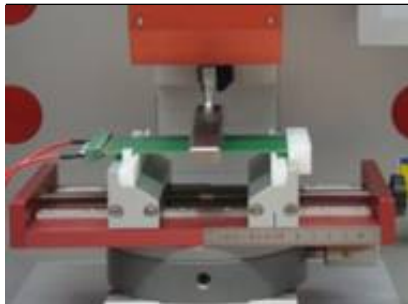
A wide variety of **test types** are relevant for this industry, among which are:

### Pull tests

- Ribbon pull
- Thick wire
- Thin wire



Thick aluminium wire pull test



Bending test on FR4

### Bending test

- 3 point
- 4 point
- Uni-axial

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