



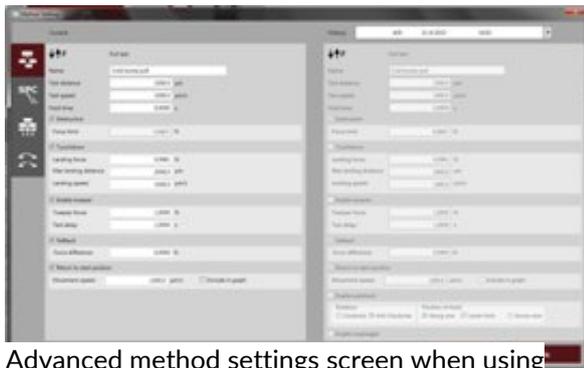
USB Tweezers performing cold bump pull (CBP)

Tweezers

- Support **Electric** (Virtually any application)
 - Intelligent jaws
 - Exchange tips within seconds
 - Built-in LED lighting
- **Mechanically actuated tweezers**
- Up to 4 different tweezers can be mounted on one RMU
- Quick change jaws for different applications
- **Pneumatically tweezers** are available only on the **Condor Sigma platform**
- **CBP Jaw Cleaner**

XYZTEC Tweezer solutions

Many bond strength tests require a means to grip the part so that the strength of its bond can be tested. In many of these applications the geometry and force of the grip must be precisely controlled to ensure sufficient load can be applied to the bond without the act of gripping affecting the bond itself.



Advanced method settings screen when using

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XYZTEC Netherlands

J.F. Kennedylaan 14-B
 5981 XC Panningen
 Netherlands ([map / route](#))
 Tel: +31-77-3060920
 Fax: +31-77-3060919
sales@xyztec.com
support@xyztec.com

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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To cater for this the **Condor Sigma** offers a wide variation of tweezers with both a precise gripping action and the flexibility to suit a wide range of applications. Each of the 6 RMU positions can be equipped with manually controlled tweezers, while one RMU position is dedicated for an air controlled and/or electric (USB) controlled tweezer.

Electrically actuated

USB Tweezers

XYZTEC offers a unique electrically actuated micro grippers solution: USB Tweezers ([download PDF flyer](#)). The features include a powerful software, fully programmable closing force and positioning, a built-in adjustable light source and easily exchangeable tips. Designed especially for solder ball pull, thick wire pull, thin wire pull and ribbon peel test.

Virtually any application

The system is designed to be compatible with the commonly used Condor series: **Sigma** and **Classic**. This ensures consistency in your measurement results between different testers. The USB tweezers are fitted to a standard pull sensor.

This sensor can also be used to sense when the tips of the jaws touch your sample and can be used to land with a programmable force. However, the USB Tweezers are a stand-alone device and can be used with other systems and virtually any application.

Intelligent jaws

The gripping jaws (tweezers with tips) are driven by a built-in closed loop 3-phase brushless micro drive to accurately open or close. The jaw actuators incorporate a strain gauge to precisely measure and control the gripping force.

The gripping force can be programmed and will be maintained throughout the test with a force control loop. Similarly, the position of the jaws is known and controlled via the closed loop micro motor. This also enables programmable control of the closing and opening positions.



Exchange tips of USB Tweezers within seconds

Exchange tips within seconds

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A thumbscrew allows for quick and easy exchanging of tips. There is a standard range of tips to suit many different applications, for example gold wire pull or aluminium ribbon peel. Custom tip designs for application specific requirements are also possible.

Built-in LED lighting

The tweezers come complete with built-in high intensity LED light source. The power and control of the tweezers is delivered by one USB connection to the machine or computer.

CBP Jaw Cleaner

During use solder builds up in the cavity in cold bump pull (CBP) jaws. This reduces their grip efficiency and affects the quality of your measurements. Cleaning the cavities is very difficult and small ball cavities can be damaged easily. [Click here to find out more information about XYZTEC's patented solution: the CBP Jaw Cleaner.](#)

Specifications

Maximum clamping force	8 kgf
Adjustable clamping force	0-8 kgf
Maximum pull force	10 kgf
Average closing time	1 s
Adjustable LED brightness	0-100 %
Rotation stroke	±90 °
Programmable closing force	yes
Programmable opening position	yes
Easy exchange of tips	yes
Interface	USB
Compatible with Condor Sigma	yes
Compatible with Condor Classic	yes
Supports Microsoft Windows XP, Vista and 7, 32 and 64 bit systems	

Specifications subject to change without prior notice.

Mechanically actuated tweezers

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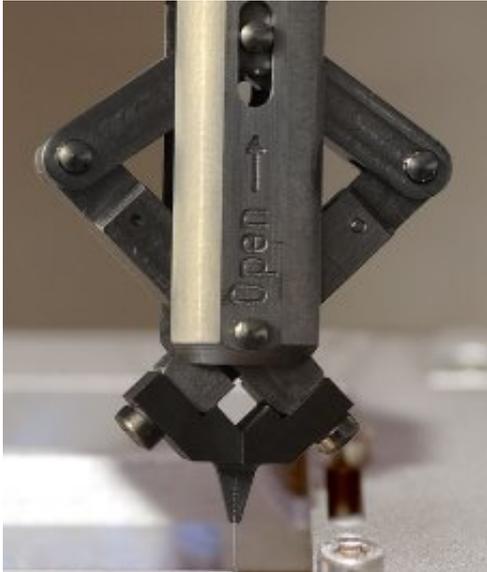
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Bond testers

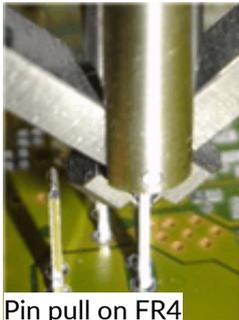
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Mechanical tweezer for forces up to 50 kgf

The XYZTEC mechanically actuated tweezers are developed for high force pull tests. Tests with forces up to 500 N / 50 kgf can be performed. Typical applications are pull tests on electrical connections like studs, connectors or even pulling off entire devices. The tool can handle objects up to 3 mm thickness.



Pin pull on FR4

The compact design can handle up to 500N although the maximum force is limited by the type of jaws used. The tweezers initially generate a small gripping force that increases during a test under the action of the applied load. Jaws have to be matched to the type of test. For this there are a number of standard jaws available but customized jaws can also be provided.

Specifications

Maximum clamping force	100 kgf
Adjustable clamping force	50 kgf
Please contact us for further specifications	

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USB Tweezers case

Contact us

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

USB Tweezers: another reason why the world is switching to the Condor

[Read our newsletter on USB Tweezers.](#)

Relevant applications

- Cold bump pull
- Ribbon peel
- Tweezer pull
- Copper pillar



USB Tweezers wire pull

Special applications

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

Tweezers flyer

[Click here](#) to download the complete "XYZTEC Tweezer Solutions flyer" (PDF) by XYZTEC.

USB Tweezers Manual

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[Click here](#) to find the [USB Tweezers manuals](#) (PDF).

Relevant test types

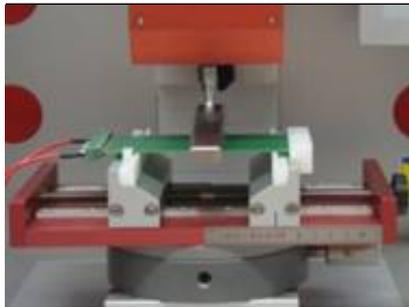
A wide variety of **test types** are relevant for this industry, among which are:

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

Special applications

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

Micro drives with the 'strength of a giant'

[Click here](#) to download an article by [Faulhaber](#), called "[Mechanical stress test for component solder joints and bonding wires - Micro drives with the 'strength of a giant'](#)" (PDF) on the USB Tweezers.

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