



Microgripper LCT/1

- Tweezer for Wire Pull Test and Pick and Place Applications

low-cost-design

The tweezer LCT/1 is a simplified variant of WPT/5. It is a universal tool for precise pick and place tasks as well as pull tests on wire bond connections. Special care was put on extreme miniaturisation and low tool costs. The tool is driven by shape memory actuators.

Although tool design is very simple smooth and precise movement is possible. Also, all demands on clean room equipment are met.

Due to the reduced design, gripping force and opening gap have to be set on delivery. Variations at a later date are not as easy as with WPT/5.



Fig 1 low-cost-tweezer LCT/1

Design

The tweezer has one fixed and one moving finger. It is driven by thermo-mechanical actuators. Joints are free from backlash.

Recommended object size is below 1mm, with a special design objects up to 5 mm can be handled.

Tweezer spikes are normally made of tungsten carbide which is extremely durable and can be structured very fine. A wide range of different spike geometries as well as customised geometries can be offered

Important to know

Ordering the tool object size and desired gripping force has to be specified. If not specified the tool will be delivered as described next page. Changes of the parameters at a later stage are limited. For application where force and object size may change we recommend our product WPT/5.

Using LCT/1 for pick and place tasks, the one moving finger design has to be taken in mind. It gives a very high pick and place accuracy but causes a moving tool centre point. This can be eliminated by offsetting the handling system.



Fig 2 microgripper used as pull test tool

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Technical data
LCT/1

Mass:	2 gram
Dimensions:	42 mm x 8 mm x 5 mm
Tweezer spikes:	standard 100 μm x 400 μm, other spikes possible
Spike material:	Tungsten carbide
Gripping force:	0,2 Newton ... 0,8 Newton, adjustable
Object size:	0 ... 1 mm, (max. 5mm)
Positioning accuracy:	≤ 20 μm
Gripping time:	opening < 0,5 s closing < 1 s
Power supply:	constant current, I = 380 mA

Fig 3 main dimensions LCT/1

