



## Miniature Gripper WPT/6 for Universal Use

- gripper for sensitive parts
- gripper for pull test applications

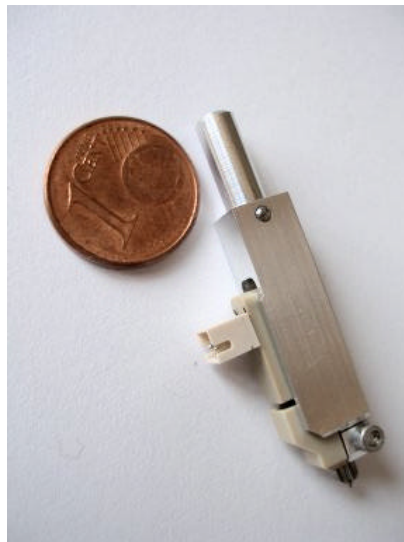
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The miniature gripper WPT/6 is a versatile tool for assembly and handling of small objects (Fig. 1 – 2). During design, special care was given to high miniaturisation and easy handling.

Compared with pneumatic grippers it shows a very smooth motion characteristic and can therefore be used for handling of sensitive parts.



**Fig. 1** Universal miniature gripper WPT/6

### Design

The movable gripper jaw is driven by shape memory actuators. The solid-film-joints are working without clearance and give a very precise grip. Objects with a length or diameter up to 1 mm can be handled with the gripper. With application specific gripper tips, objects up to 5 mm length can be gripped. The potential risk of sticking of light-weighted objects is minimised by gripper tips made of tungsten carbide. With the standard tips, the gripper can be driven into regions with as little as 100  $\mu\text{m}$  clearance.

### Recommended use

If not differently ordered, the gripper is shipped as specified on the next page. The mounting shaft can be modified according to customers needs (Fig. 3). The user can adjust gripping force and gap as needed in a particular application.

The micro gripper WPT/6 is designed with one movable and one fixed finger. That way, the excellent positioning accuracy of less than 10  $\mu\text{m}$  can be achieved at very low cost. This approach may cause small changes in the motion concept of the handling system compared to conventional grippers with two moved fingers.

In order to keep the electro-thermo-magnetic equilibrium of the shape memory actuators stable despite changes in resistance during operation, the gripper should be driven by a constant current.

### Sample applications

Typical applications for WPT/6 are testing of semiconductor connections (bond connections) and handling and positioning of small objects such as optics, fibers, electrical components and others.



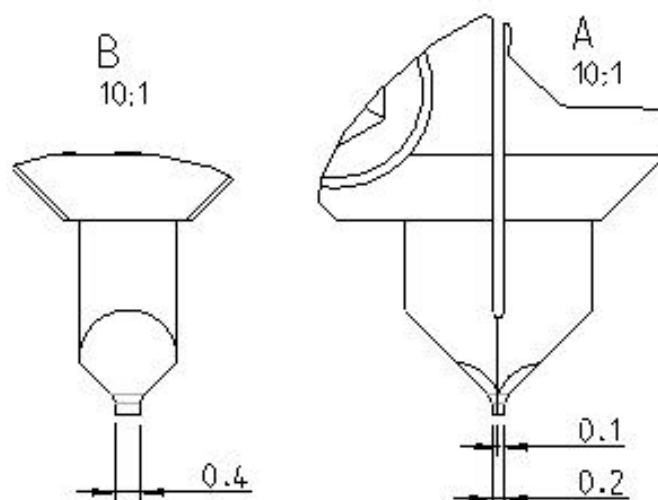
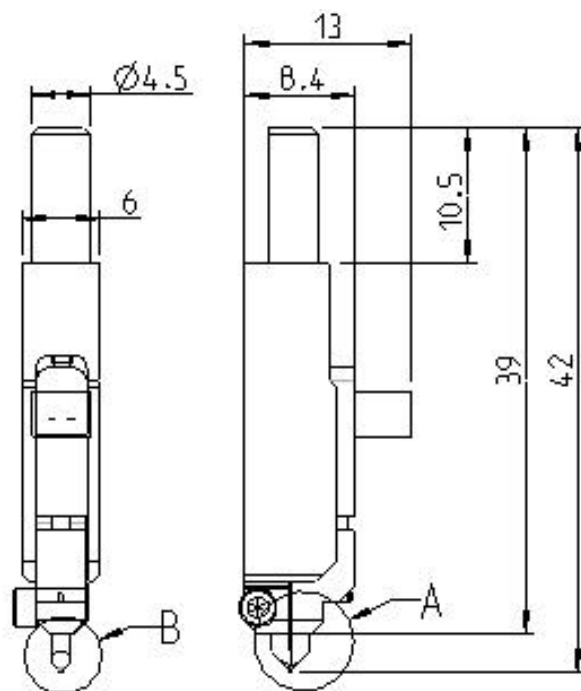
**Fig. 2** Miniature gripper WPT/6 used in pull tests on wire bond connections

**Technical Data**  
**WPT/6**

Mass:	2,7 g
Dimensions:	41 mm x 8 mm x 6 mm
Gripper tips:	100 μm x 400 μm, different geometries on costumers demand
Material of gripper tips:	Tungsten carbide
Gripping force:	0,2 N ... 0,8 N, adjustable
Gripper gap:	0 ... 1 mm
Positioning accuracy:	≤ 10 μm
Gripping time:	Opening < 0,5 s Closing < 1 s
Electrical supply:	Current source, I = 300 ... 600 mA

**Fig. 3** Main dimensions of universal gripper WPT/6 and detail view of standard gripper tips (dimensions in mm)

Gripper scale 2 : 1



Example for gripper tips  
Scale 10 : 1