

# Alignment Tester FLZ

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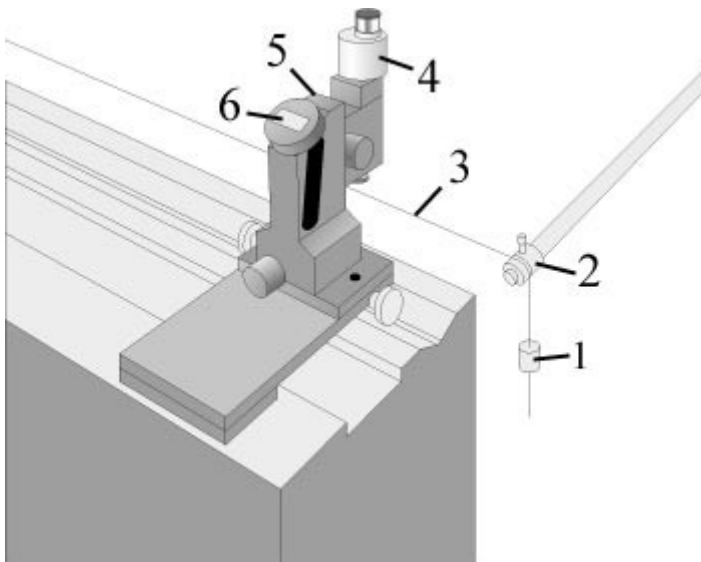
Revision:05

The FLZ alignment tester is a transportable microscope for the alignment of machine guides.



Technische  
Mikroskopie

## Layout for the testing of a carriage guide



- 1 - Weight
- 2 - Return pulley
- 3 - Measuring wire
- 4 - Microscope with split-image eyepiece
- 5 - Spirit level
- 6 - LCD measured value display

The measuring wire is fastened to the headstock or a special holding device, fed at the end of the base over a pulley and stretched tight with a weight (layout according to DIN 8606).

The alignment tester must be placed on the carriage of the machine or a corresponding device, which can be moved in a longitudinal direction in predefined steps on the machine base. The measuring wire must be aligned in such a way that the same values are measured in the starting and end position of the carriage, i.e. that it is tensioned to form an imaginary connecting line parallel to these positions. When the wire is aligned to the bearing, the value display is set to zero.

The straightness deviation can now be read directly on the display for each position when both parts of the image are fitted together by moving the microscope horizontally with the integrated micrometer spindle.

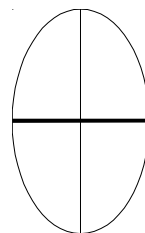


### Technical description

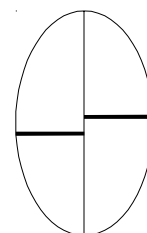
The microscope and the stand are connected by a rigid dovetail guide. To bring the measuring wire into focus, the microscope can be vertically adjusted by means of a pinions gear on the stand. Horizontally, the position of the microscope is recorded by a digital measuring system and indicated in a LCD. Since horizontal movement is effected in the object plane, errors of the first order are ruled out.

With a spirit level the alignment tester can be precisely installed in a horizontal position. The microscope spirit level and plane mounting surface, which is provided with two drilled holes for insertion of the fastening bolts, are aligned to each other.

### Image of the split-image eyepiece



measuring wire in the center



measuring wire not in the center



## Features and accessories

Order no.:

FLZ

**Alignment Tester FLZ**  
split-image eyepiece,  
digital measuring system,  
total magnification approx. 40x  
including transport box



Order no.:

FLZ-45

**Alignment Tester FLZ-45**  
45° split-image eyepiece for low space  
environment, digital measuring system,  
total magnification approx. 40x  
including transport box



Order no.:

FLZ-CAM

**Video camera**  
Modified "Action-Cam" GoPro Hero7  
Black with C-Mount connector  
- 3840x2160 pixel resolution  
- water resistant and shockproof  
- display 5,08 cm with touch  
- videostreaming via WLAN  
- Micro-HDMI connector for monitor  
- inkl. Micro-SD card, without HDMI-cable





**Order no.:**  
**FLZ-DJE**

**Wire adjustment equipment**

Clamping device with magnetic stand to adjust the measuring wire, inclusive 2 weights (for steel and bronze wire). The wire can be adjusted horizontally and vertically.

accordingly

**Order no.:**  
**LZ.43**

**500g additional weight**

connectable by a threaded pin

**Order no.:**  
**LZ.46**

**Measuring wire up to 6m guide length**

phosphor bronze wire Ø 0,3 mm,  
on spindle (1kg),  
length about 1.8 km

**Order no.:**  
**LZ.47**

**Measuring wire over 6m guide length**

steel wire Ø 0,3 mm,  
on spindle (1kg),  
length about 1.8 km



**Order no.:**  
**FLZ-BL**

**LED illumination**

retrofitable battery illumination with LED. The illumination is fixed directly on the lens. The LED illuminates a surface below the wire to get a transmitted light effect.



**Order no.:**  
**FLZ-IK**

**USB Interface-Cable**

Interface cable to connect the digital readout with a PC for data transfer



**Order no.:**  
**FLZ-IF**

**Wireless data transmission**

Transmitter and USB receiver for a PC to transfer the value of the digital readout



Order no.:

**Software VMS-FLZ**

VMS-FLZ

Shows a graphic of the alignment deviation.  
Requires the interfaces FLZ-IK or FLZ-IF for data transmission.  
Optional: Display of the split-image by USB video camera VM4-USBI



Revision:05

Order no.:

**USB video camera (monochrome)**  
resolution 1280x1024 pixel

VM4-USBM



comfortable display of the split-field image on the screen



## Technical data

<b>Total magnification</b>	approx. 40x
<b>Horizontal adjustment range</b>	10 mm
<b>Vertical adjustment range</b>	40 mm
<b>Working adjustment distance</b>	approx. 25 mm
<b>Resolution of the digital measuring system</b>	0.001 mm
<b>Weight to be attached with: phosphor bronze wire steel wire</b>	150 g 650 g
<b>Total height</b>	approx. 300 mm
<b>Foot width</b>	140 mm
<b>Center to center distance of the mounting holes</b>	110 mm
<b>Diameter of the mounting holes</b>	9 mm
<b>Weight</b>	4 kg
<b>Functions of the digital measuring system</b>	On / Off Zeroising (Inc / Abs) Preset (preselection) Tolerance +/- Preceding sign selection

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Specifications are about to change without notice!

