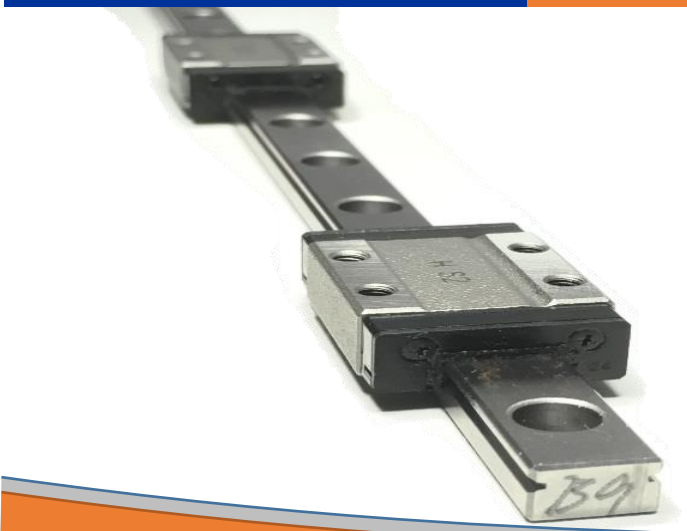

Preliminary

HOFBAUER

ELWI-GER 3000

Straightness in mechanical and plant engineering

Easily adjust, measure and log

2-dimensional accurate and fast measurement of straightness and 'flatness' with the optical alignment and measuring system ELWI-GER 3000. The flexible system is suitable for technical surfaces, alignment and control of linear guides as well as for curvature measurement on large components and rail systems.

Fields of Application

- Straightness evaluation directly without PC
- Mechanical engineering
- Linear guideways and rails
- Plant, rail and tunnel construction

Features

- X- and Y- Straightness simultaneously
- Use in any position
- Passive reflector
- Use even in a vacuum
- Small and compact also for service inspection
- Long measuring distances up to > 100 m

- 10 to 100 times faster as before
- 5 to 20 times more accurate than others
- Resolution <0.1 µm / m
- Accuracy up to <0.5 µm / m
- Zoom function for easy alignment
- 11 "touch screen IP 65, robust and lightweight
- Battery operation for 8 h use
- Data transfer and remote control via smartphone
- Data transfer via LAN and W-LAN possible
- Automatic protocol with document tracking
- Automatic distance detection with additional Elements
- Roll angle detection with electron. spirit level

HOFBAUER OPTIK · Mess- & Prüftechnik
www.hofbauer-optik.de
Petzetstraße 8
D-81245 München Germany
Tel. +49 (089) 89669088
info@hofbauer-optik.de

Measurement methods:

In the **inclination method**, a measuring mirror on a mirror base or on the guide carriage of a linear guide is positioned in equidistant steps over the test object and the inclination change is measured. By summation (integration) of the height differences, the straightness is determined and displayed. The method achieves the highest accuracy with the lowest possible measurement uncertainty.

In the **height method**, the reflector attached also via a suitable base or on the linear slide or the movable axis (machine table, Traverse etc.) can be positioned at any point. The deviation from the ideal straight line (optical axis) is measured and displayed directly. The Adjustment process can be performed in real time.

Software

Intuitive touch operation on a rugged IP65-tablet

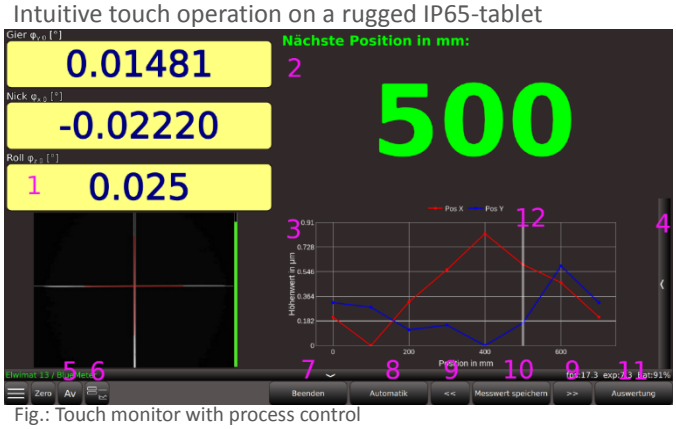

Fig.: Touch monitor with process control

1. Measured value of an additional roll angel measuring device
2. Display of the next measuring position
3. Measured data as a graphic or as a table
4. Opens the side menu for the table and graphic parameters
5. Activates averaging
6. Switches view graphic / table
7. Ends the current measurement
8. Starts the time-controlled automatics
9. Selection of the previos / next measuring position
10. Save measured values for the current measuring position
11. Evaluation of the measurement and creation of the report
12. Mark the next measuring position

Evaluation Endpoint, ISO 1101 and Regression

Graphical evaluation with menu guide and report included.

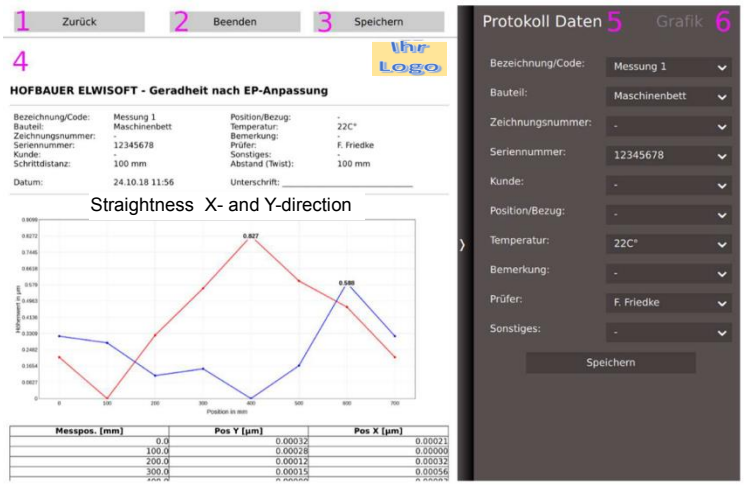

Fig.: graphical evaluation, menu guide and report

1. Back to the previous window
2. End measurement
3. Save report as .pdf
4. Report preview
5. Adjust the log data
6. Configuration of the graphical and the evaluation

Technical specifications (Standard for Straightness*)

ELWIMAT GER 3000	**Straightness** (Inclination method)				**Straightness / Aligning** (Hight method)			
	AKF46/40	**AKF140/40**	**AKF300/65**	**200-13 K**	**46-4,8 K**	**90-5 K**	**200-13 K**	**300-20 K**
No. Degrees of Freedom	2 x Angle	2 x Angle	2 x Angle	2 x Angle	2 x Position; 1 x Distance			
Measurement Lenght/ m	0 – 3	0 – 10	0 – 20	0,6 - 50	0,2 - 5**	0,3 - 10**	0,6 - 50**	2 - 100**
Field of View/ mm ***	1...15	1...15	1...15	1…50	10…200	10…300	10…800	20…1000
Reproducibility R ****	1,5 µm/m	0,5 µm/m	0,25 µm/m	0,25 µm/m	5 µm/m	3 µm/m	1,5 µm/m	1 µm/m
Accuracy, Linearity	< 0,1 % of value + 2R				< 0,5 % of value + 2R			
Focal length/ mm	46	140	300	200	46	90	200	300
Weight AC-Sensor/ kg	0,8	1,1	2,9	1,5	0,7	0,9	1,5	1,6
Dimensions AC-Sensor	Ø 40 f8; 107 x 62 x 110 mm³		Ø 65 f8	Ø 40 f8	Ø 40 f8; 107 x 62 x 110 mm³			
Interface/ Protokoll	USB 3.0, LAN, HDMI, RS232 / JSON				USB 3.0, LAN, HDMI, RS232/ JSON			
Reflector recommended	Magnetic mirror D50, Mirror D65			D80	Reflectors P-/ R-/ D-3000			
Oder. No.	801 331	801 333	801 337	802 335	802 331	802 332	802 334	802 335
Scope of delivery	AC-sensors, 11“-Touch-Modul, Software ELWI-GER, Power supply, sensor cable, remote control,							
	Options: Software Apps, USB null model cable foot switch, various reflectors, mounting accessories							

* depending on application/ requirement with corresponding sensor/ reflector

** depending on: single or double reflector

*** depending on the working distance (measuring length) and reflector type

**** depending on additional environmental conditions

Stand:Feb 2020

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www.hofbauer-optik.de
Petzetstraße 8
D-81245 München Germany
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