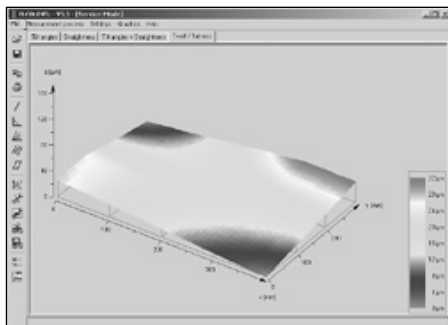# ELCOLEVEL
3D-machine geometry measurement


SOFTWARE FOR 3D-MACHINE GEOMETRY MEASUREMENT WITH ELECTRONIC AUTOCOLLIMATORS AND INCLINATION MEASURING SYSTEMS

The windows software **ELCOLEVEL** serves for the measurement of pitch-, roll- and yaw-angle of precision guidelines to evaluate the straightness, the squareness, the parallelism and the flatness with autocollimators and inclination measuring systems. Due to the simultaneously measurement in up to three measuring axes, using at the same time an autocollimator and an inclination level, **ELCOLEVEL** allows the measurement of the straightness in two axes and the roll angle of a guideline in one and the same measurement process.

The 3 measuring axes are freely combinably with the available input device data channels.

At present exists interfaces to all electronic autocollimators of the **ELCOMAT** series, to autocollimators of Taylor-Hobson and to several types of inclination scales (Wyler, Leica, Talyvel).
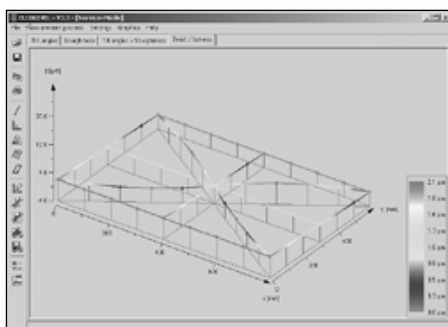
THE MEASURING PRINCIPLE

The geometrical data are in principle determined from the place-dependently changes of the tilt angles on the measuring object. The tilt angle measurement itself is different for the different input devices.

Depending to the measurement problem **ELCOLEVEL** computes the straightness, squareness, parallelism or flatness of the measuring object from these measured tilt angles. The accuracy of measurement is only determined from the accuracy of the input devices and the environment influences.
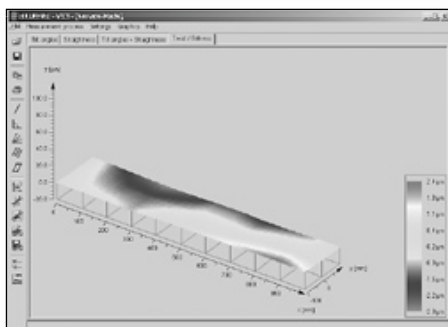
MEASURING FUNCTIONS

ELCOLEVEL provides the following measuring functions: Tilt angle, straightness, multiple line measurement (= parallelism measurement in up to 20 lines), squareness, twist measurement (measurement of straightness and twist of 2–3 parallel lines; representation as a flatness diagram), flatness.

For all measuring functions the operator can define any measuring templates containing all specific informations and parameters for the measurement. So the measurements must prepared only once.
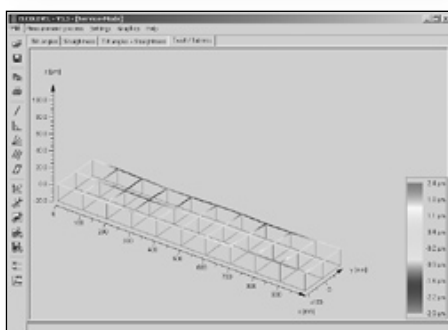
EVALUATION METHODS

ELCOLEVEL provides the following evaluation methods: Peak-to-valley-minimum (according DIN ISO 1101), regression, end point fitting, raw data output.

Measuring record

Messprotokoll

Messspezifikation: Twistmessung

Name der Messprobe:
Messzeitpunkt: 01.06.04 - 12:26:38
Bemerkungen:

Messergebnisse Twist-Winkel:

Peak-to-Valley-Wert: 3.0 sec
Mittelwert/Min/Max: 2.0 sec /   0.0 sec /   3.0 sec
Standardabweichung: 0.9 sec

Messergebnisse Twist-Winkel links:

Peak-to-Valley-Wert: 4.0 sec
Mittelwert/Min/Max: -1.8 sec /   -3.0 sec /   1.0 sec
Standardabweichung: 1.3 sec

Messergebnisse Twist-Winkel rechts:

Peak-to-Valley-Wert: 5.0 sec
Mittelwert/Min/Max: 2.5 sec /   0.0 sec /   5.0 sec
Standardabweichung: 1.5 sec

Messergebnisse Twist-Profil:

Peak-to-Valley-Wert: 4.751 µm
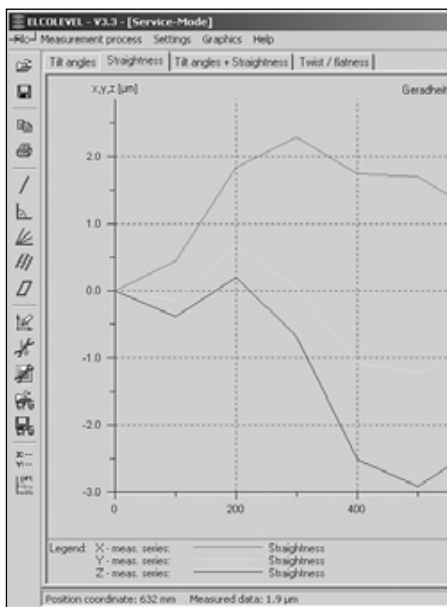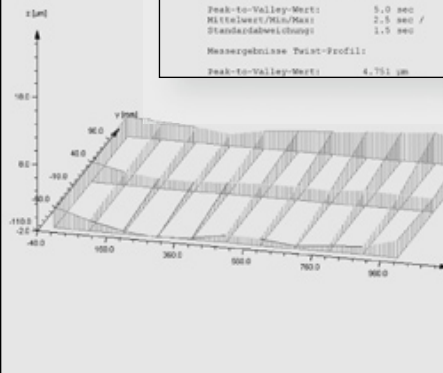
Technical data are subject to change without notice 5/4/2007

MEASUREMENT RESULT REPRESENTATION

All forms of the measuring result representation are copyable to other applications, printable and storeable.

■ Graphical

ELCOLEVEL provides the following graphical representation options: representation of line measurements in 2D graphics, variable and freely scalable, twist and flatness measurements in 3D graphics with the option of 2D profile sectional views in x- and y-direction, all graphics variable and freely scalable.

■ Measured value tables

The data of the measured tilt angles and/or calculated straightness/ flatness data are presentable in measured value table with arbitrary, freely selectable parameters (title, row titles, row width etc.).

■ Measuring records

All measuring records are based of custom specific measuring record templates. Each record template is a combination of arbitrary text, filled with wildcards for the output of the measurement specific data (measured values, measuring results, date, time, custom specific parameter like operator, device name…). Of course the measuring record output is combinable with the graphical representation.

MEASUREMENT RESULT STORAGE

The storage of the measurement results takes place in ASCII-Files.
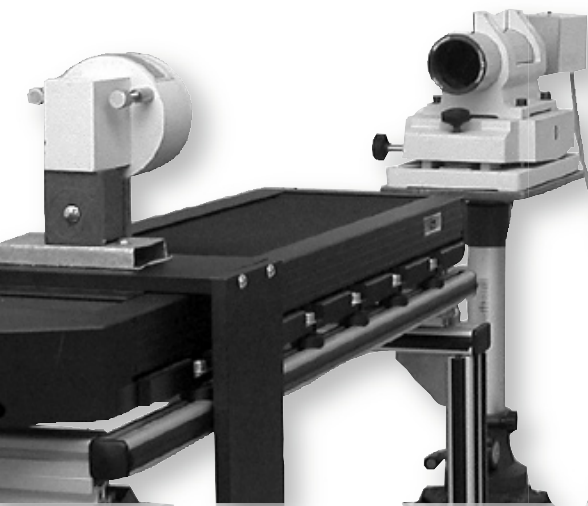
COMPATIBILITY

The OEG software engineers develop interfaces on requirement to further measuring sensors or instruments. Call us!

TESTING ELCOLEVEL?

At our homepage **www.oeg-messtechnik.de** is available in the download area a demo version of **ELCOLEVEL** with all current interfaces.

Convince yourselve of the efficiency of **ELCOLEVEL**.