TRIMOS

TR Scan Compact Z

Mini non-contact measuring column

Swiss Measuring Instruments

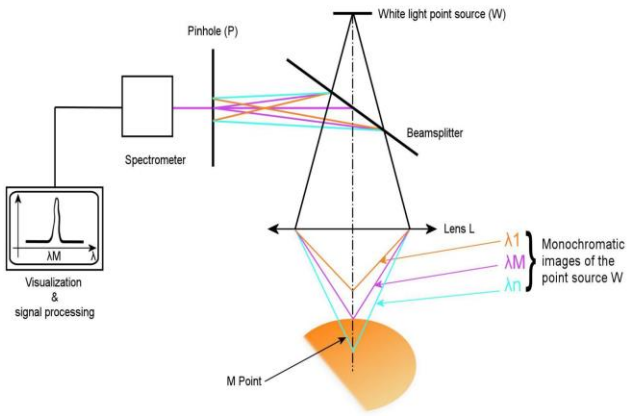
1.

PRESENTATION

The new TR Scan Compact Z is a miniature height measuring column. It allows non-contact height measurements on all types of materials such as gold, soft surfaces, transparent surfaces etc.
The CCMP (**C**onfocal **C**hromatic **M**icroscopy **P**oint) technology combined with a digital camera allows to visualize the "virtual ball" measurement point on the part. Thanks to this method, height measurements are possible in places that a conventional contact sensor cannot reach.
The optional measuring system on the table (X/Y) allows fast and precise positioning.
The extremely fast Z-measuring system (2000 Hz) allows dynamic height measurements on moving parts.

2.

CCMP TECHNOLOGY



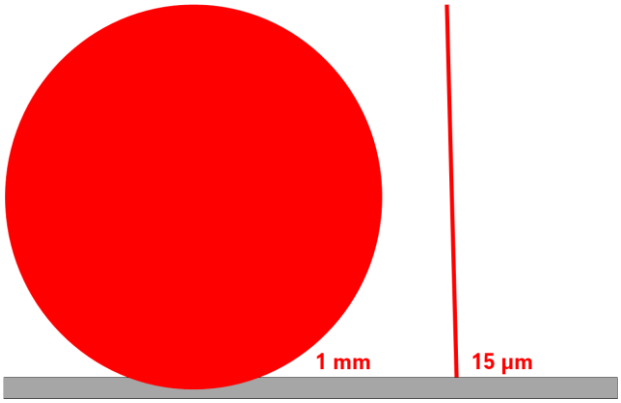
A chromatic lens L generates the image of a point source of white light W as a continuum of monochromatic images located on the optical axis ("chromatic coding").

A sample is located within the color-coded segment and its surface scatters the incident light beam.

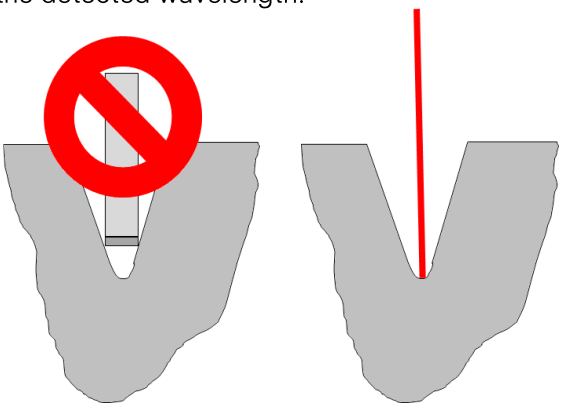
The backscattered light passes through the chromatic lens L in the opposite direction and arrives at a pinhole P that filters out all but one wavelength, λM.

The collected light is analyzed by an S spectrometer.

The position of the sample (M-point) is directly related to the detected wavelength.



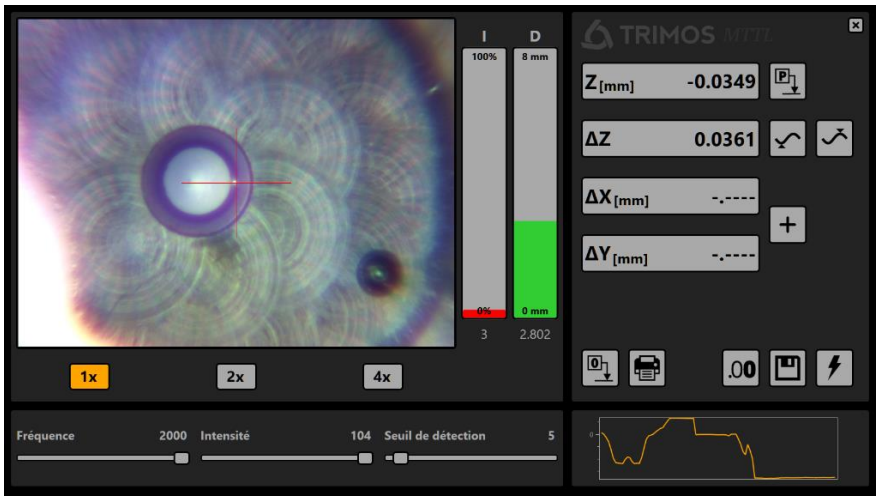
The beam of the CCMP sensor is extremely small compared to a 1 mm ball. Furthermore, there is no influence due to material deformation during measurement.



The CCMP beam allows you to search for reversal points in extremely small areas not accessible to a contact sensor.

3.

SOFTWARE



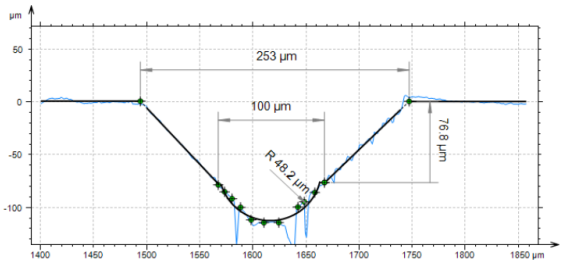
The **Trimos Compact Z** software is extremely simple. Its philosophy is inspired by the philosophy of the height gages that have made Trimos so successful. It allows quick non-contact height measurements even for inexperienced users.

In addition, a contour module enables 2D analyses to be performed on the measured profile.

Additional software module :

Contour Basic & Advance

The contour module enables additional measurements to be made on the extracted profile, such as angles, distances, radius calculation, as well as the comparison of a DXF with the contour.



4.

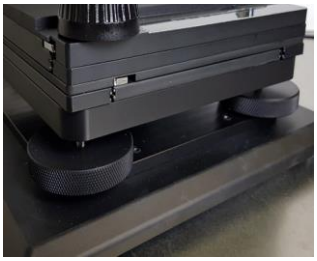
DETAIL

Z-axis displacement

The Z-axis travel wheel has two functions: quick movement and fine positioning to easily adjust the working distance.

Mounting Bases

The table's thumbwheel allows precise movement in X & Y.



Tilt Adjustment

The tilt adjustment of the table is done using the two knobs on the front of the table.

Vision

The vision system with its adjustable external light makes it possible to correctly view the current measurement area.

5.
SPECIFICATIONS

Specifications		Value
Optical sensor	Working distance	31.8 mm
	Measuring range	8 mm
	Resolution	0.1 µm
	Numerical aperture	0,25
	Maximum angle of measurement	90° +/- 15°
	Spot size	15 µm
	MEP	0.6 µm
X/Y measuring system	Type of system	Incremental
	Resolution	1 µm
	MEP	~ 10 µm
	Interface connection	2x USB 2.0
Vision	Video stream	Live image
	Field of view	7 x 5.25 mm
	Resolution	1600 x 1200
	Pixel size	~4.3 µm
	Sensor type	colour CMOS
Other	Interface connection	2x USB 2.0

6.
MODELS

The TR Scan Compact Z is delivered with a complete stand as well as the spectrometer and the connections for its operation. The portable PC and the measuring axes of the table are optional.

Model TR Scan	Reference	Table XY	Vision camera	Integrated measuring system
Compact Z 1D (without PC)	700 405 10 02	Yes	Yes	No
Compact Z 1D (with PC)	700 405 10 03	Yes	Yes	No
Compact Z 2D ½ (without PC)	700 405 10 04	Yes	Yes	Yes
Compact Z 2D ½ (with PC)	700 405 10 05	Yes	Yes	Yes

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