

# TR Scan Compact Z

Mini non-contact measuring column



# 1.

## PRESENTATION

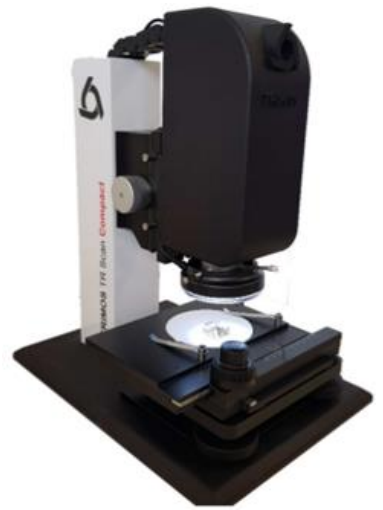
The new TR Scan Compact Z is a miniature height measuring column. It allows non-contact height measurements on all types of materials such as gold, soft surfaces, transparent surfaces etc.

The CCMP (Confocal Chromatic Microscopy Point) 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.

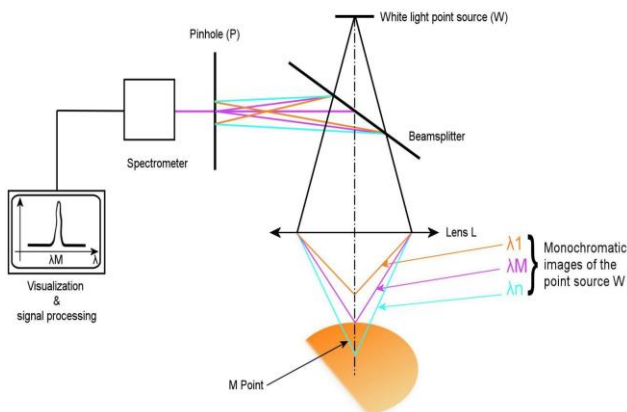
The optional measuring system on the table (X/Y) allows fast and precise positioning.

The extremely fast Z-measuring system (2000 Hz) allows dynamic height measurements on moving parts.



# 2.

## CCMP TECHNOLOGY



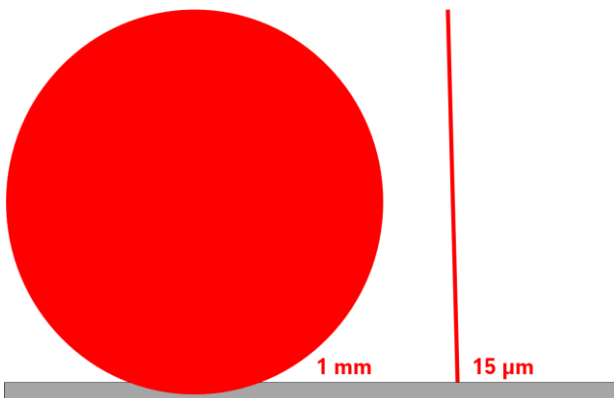
A chromatic lens L generates the image of a point source of white light W as a continuum of monochromatic images located on the optical axis ("chromatic coding").

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

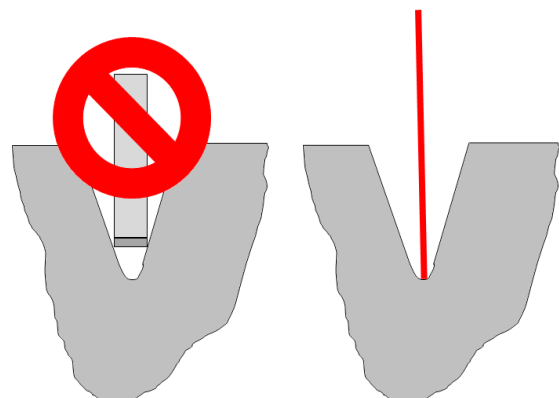
The backscattered light passes through the chromatic lens L in the opposite direction and arrives at a pinhole P that filters out all but one wavelength,  $\lambda_M$ .

The collected light is analyzed by an S spectrometer.

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



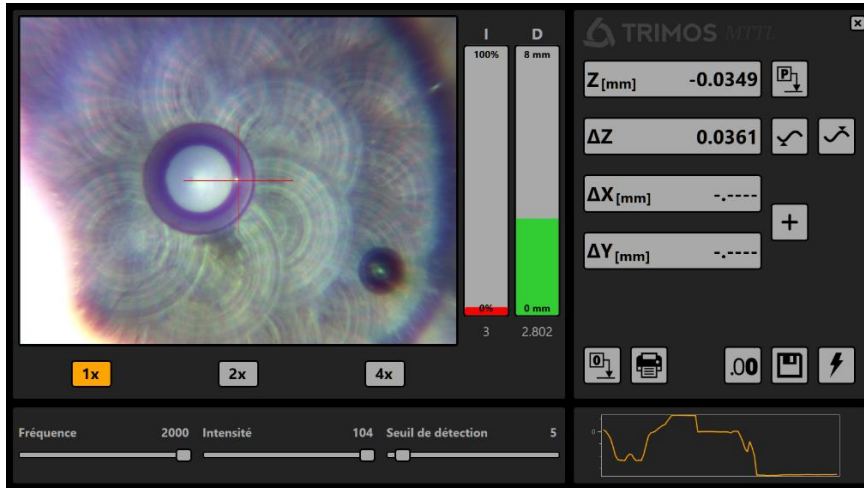
The beam of the CCMP sensor is extremely small compared to a 1 mm ball. Furthermore, there is no influence due to material deformation during measurement.



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

# 3.

## SOFTWARE



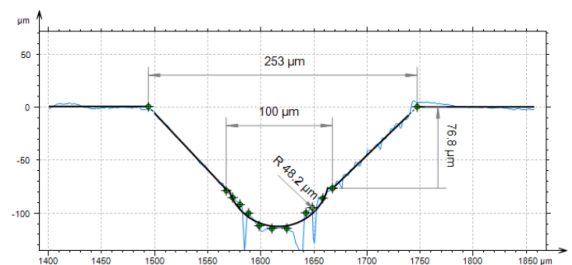
The **Trimos Compact Z** software is extremely simple. Its philosophy is inspired by the philosophy of the height gages that have made Trimos so successful. It allows quick non-contact height measurements even for inexperienced users.

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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