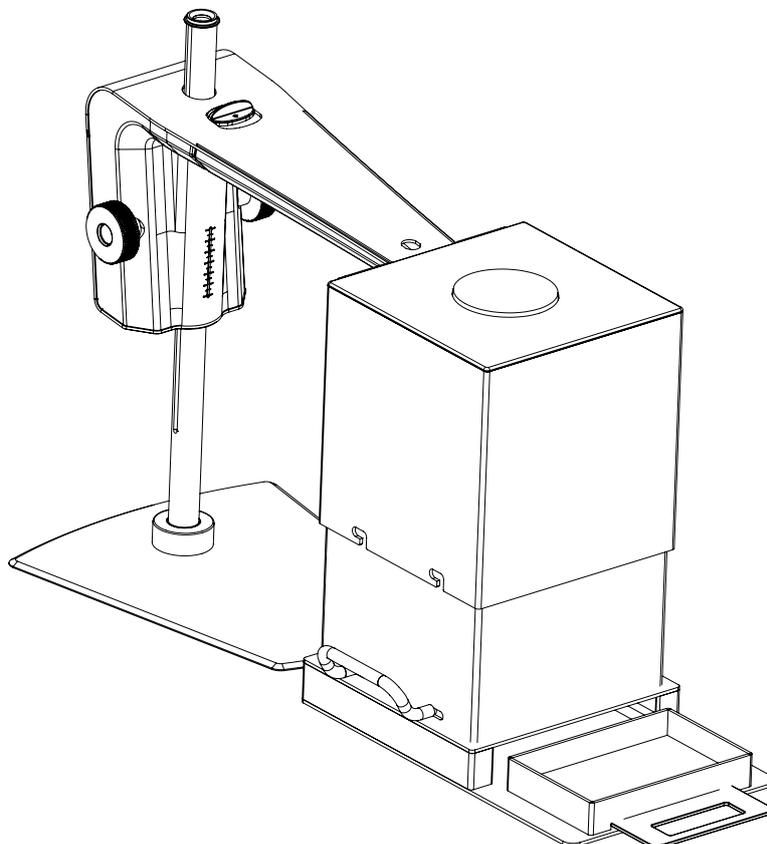


GUIDE | TAGARNO IMAGE ANALYSIS / COLOR ANALYZER

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CONTENTS

1.	ASSEMBLING	2
2.	TOOLBAR	3
3.	OPERATION	4

The Color Analyzer enables you to objectively analyze/validate the color of a sample directly on a TAGARNO digital microscope.

1. ASSEMBLING

Light settings

To get the best results, we recommend using this application with the TAGARNO FHD Trend. This allows you to attach the right accessories and rightfully adjust the settings.

Equipment needed:

Ring light white
Basic or Advanced control box (external lighting)
White balance calibration card
White balance calibration card fixture
Sample drawer
Sample drawer positioner
Light eliminator

This enables the app to run objective and reproducible analyses.

The microscope light settings are automatically set to auto exposure.

Step 1

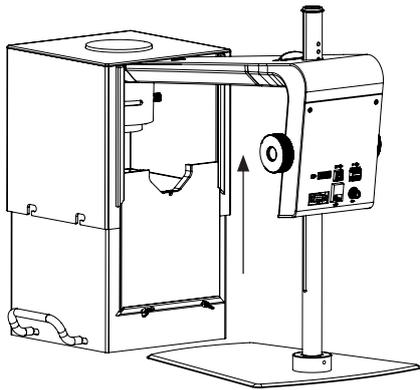
Mount a Ring light white from TAGARNO on the microscope as described in the TAGARNO Ring light white user guide.

Step 2

Adjust the light settings to the right intensity using the advanced ring light control box.

Step 3

Place the Light eliminator over the camera head as displayed below and close the Light eliminator by pulling the backwall all the way up. Do not forget to tighten the screws to prevent the backwall from falling back down. Using the Light eliminator will eliminate any external light and prevent it from interfering with the analysis result.

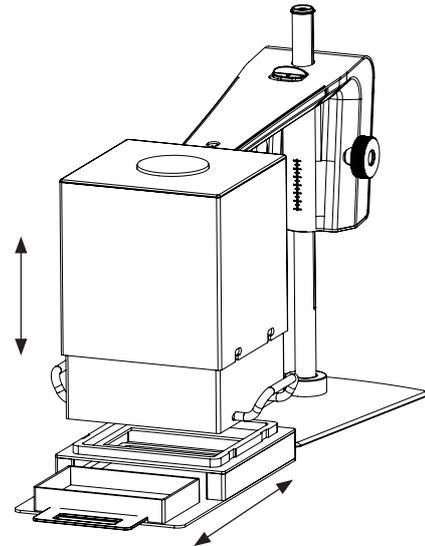


Step 4

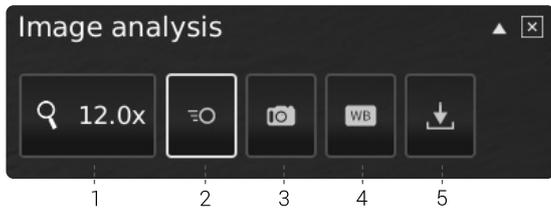
Run a white balance calibration (see Toolbar section, pt 4).

Step 5

Pour sample into the Sample drawer, insert it in the Sample drawer positioner and pull the Light eliminator all the way down using the handles as shown below.



2. TOOLBAR



1. Magnification level
Use a keyboard or the control box to choose magnification level. You should only see the sample, not the sample drawer or sides of the light eliminator.

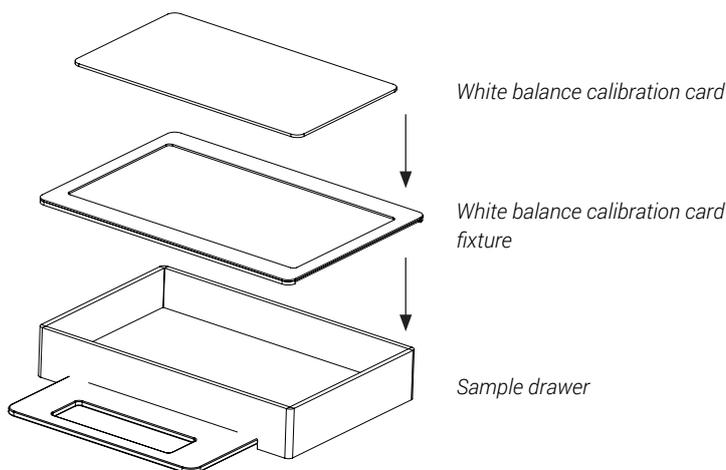
2. Live View
Use this button to toggle between live and snapshot. In Live mode, the live camera image is active. In Still Image mode, the latest snapshot will be shown.

3. Snapshot
Use this button to take a snapshot of the live image. The snapshot will not be saved automatically. The snapshot is used for toggling between "Live and Still Image mode".

4. White balance calibration (WBC)
Perform an automatic white balance adjustment in order to get colors displayed correctly on screen.

NB! It is recommend to leave the microscope turned on for 30 minutes before performing the WBC.

Place the White balance calibration card in the allocated slot on the Calibration card fixture and place them both on top of the Sample drawer as shown below.



Then, insert the sample drawer with calibration card fixture and calibration card into the sample drawer positioner and press the white balance calibration button on the monitor to start the calibration.

A white balance calibration is made each time the camera is turned on to adjust to the given light conditions. A white balance calibration must also be made every time the light conditions change.

NB! If the Sample drawer with calibration card and White balance calibration card fixture is not inserted into the camera field of view when the unit is turned on, the white balance will be incorrect and it will be necessary to perform the white balance adjustment process as described previously.

NB! Once the WBC has been performed, place the White balance calibration card into its UV protection sleeve. Storing it in the sleeve will prolong the life expectancy of the White balance calibration card.



5. Save Image

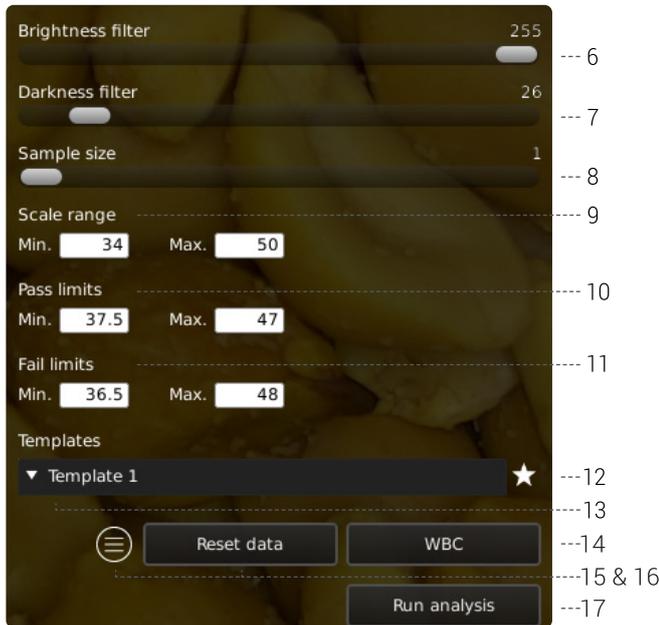
This button provides the possibility to save the current view with graphics. When activated, the information panel will also appear from the saved image (see pt. 15).

When saving an image, an information window will appear for a few seconds showing the file name and storage location.

The image will be saved on the inserted USB memory stick. If a USB memory stick is not attached, the image is saved internally on the microscope, provided the share file mode is turned on in General settings.

3. OPERATION

OPERATION (1/2)



Choose values

Choose a value by sliding the bar with the mouse or typing in the number field by using a connected keyboard.

6. Brightness filter

Use this slider to eliminate brightness that should not be included in the analysis. The more brightness that should be filtered out, the further to the right the slider should go.

7. Darkness filter

Same principle applies to this slider. Dark areas in your sample (e.g. shadows between the peanuts) can be filtered out by moving the slider to the right.

8. Sample size

Define how many sample images the analysis must be based on.

9. Scale range

Define the scale range for the overall table. Insert a number in the min. and max.

10. Pass limits

Define the min. and max. pass limits for the desired product. These values must be within the defined scale range.

11. Fail limits

Define the unacceptable scale range in the sample by typing in the min. and max. color value. The min. value must be between the min. scale value and the min. pass limit. The max. value must be between the max. scale value and the max. pass limit.

12. Save template

- Click once on the star symbol to save a template using the current zoom level, slider positions and color values
- State preferred name and press save

The template is now saved and available for later use.

13. Recall template

Recall a saved template by clicking on the list and choosing the template of your choice.

Delete a template by pressing the X at the right of each saved template.

14. White Balance Calibration

Perform a white balance calibration in order to get colors displayed correctly on the screen.

Read more about white balance calibration in section 4.

15. Information panel

Activate this information panel to view all details of template, filter settings, scale range, pass limits and fail limits, close up lens and analysis results.

Disable the information panel by pressing the icon again.



16. Reset Data

Reset data to delete previous analyses from the result overview (see next page).

17. Run analysis

Choose this option to run an analysis of the current image and get indications of the actual color value of the sample.

The analysis will always be performed using a still image which is automatically captured during the analysis process.

NB! You will not be able to run the analysis, if the button contains a yellow exclamation point. Perform a white balance calibration before trying again (see pt. 4).

OPERATION (2/2)

Color Analyzer result

When an analysis has been performed, the results will be displayed on the left side of the monitor as shown below.



The average color value of the sample is written on the screen and displayed on the defined color range (top left corner) in green if within the defined pass limits. Standard deviation is also counted.

All identified color values within the defined color range is displayed on a graph. Values within pass limits are displayed as green, while values close to or within fail limits are displayed as yellow. Values outside of the fail limit range are displayed as red.

Previous analyses are displayed on a table for easy comparison between samples. Clear this table using the Reset data button (see pt. 16).

Use the Snapshot function on the control box to capture an image of your analysis result. For more info, read Operation section in the user guide for your TAGARNO FHD digital microscope.