FLEX

MANUAL

Version 1.00
(April 2026)

ZAP+

With Flex arm Advanced

TAGARNO

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Safety

To ensure proper and safe usage of the TAGARNO ZAP+, please read the Intended use and Warnings section closely before starting the assembly and usage of the product.

Intended use

The product described in this manual is a digital magnifying system designed for manual visual inspection. If you have any questions about how to use the product, please contact support@tagarno.com.

Warnings

- Read all safety information before you use the product.
- Please pay attention when you see a warning label on the product.

- This product is for indoor use only.

- You must not discard this electrical/electronic product in domestic household waste. Please dispose at your local recycling centre.

- Read the manual before you use the product.
- Use the product only as specified, or the protection supplied by the product can be compromised.
- Do not position the equipment so that it is difficult to operate the disconnecting device (appliance inlet of exter–nal power supply, equipment input connector).
- If fluids are spilled on the product, turn the system off immediately by pulling the power supply out of the electrical outlet.
- In case of fire close to the product, please turn off and disconnect the system.
- Avoid subjecting the objective to sharp or hard objects.
- Do not connect the product, if visible damages appear.
- Do not dismantle any parts of the product, except where noted in the manual.
- Never disassemble or clean internal optical surfaces.
- Use only the power supply provided by TAGARNO.
- Always turn off the system before unplugging, when possible.
- Do not lift the microscope by grabbing the camera arm.

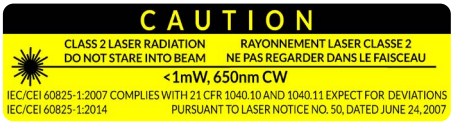
Laser pointer warning

This product is equipped with a red laser pointer to enable easy alignment of the camera and areas of interest during the inspection process.

- Never look directly into the laser aperture.
- Do not point towards anyone deliberately.
- Leave the laser on only when necessary.
- Always turn off power during service and maintenance
- Service may only be performed by trained personnel appointed by TAGARNO

This product is a Class 2 laser product that complies with IEC60825–1 international standard for lasers.

These labels appear visible on the product:



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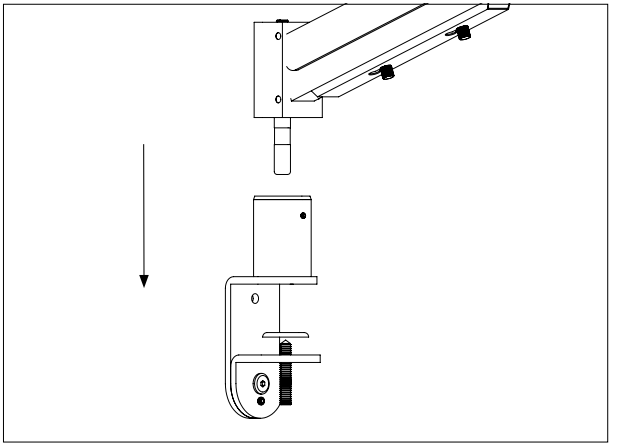
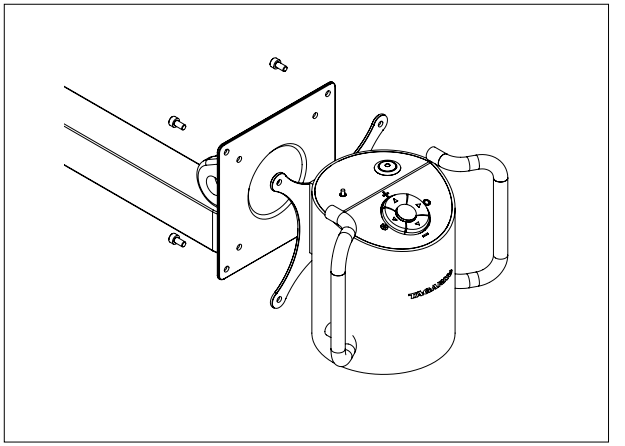
Assembling

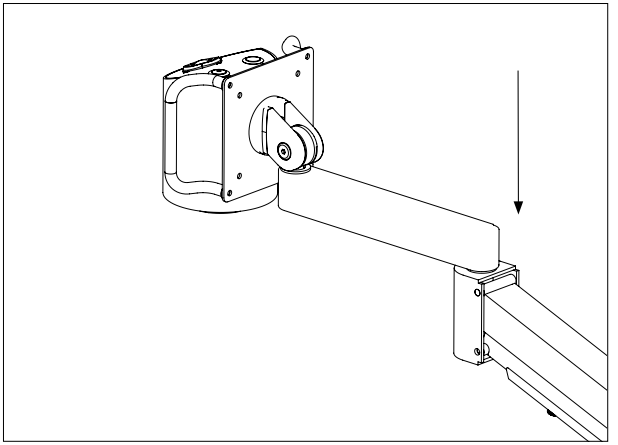


Mount the table mount using the table clam. Assemble the bottom of the flex arm and the table mount.

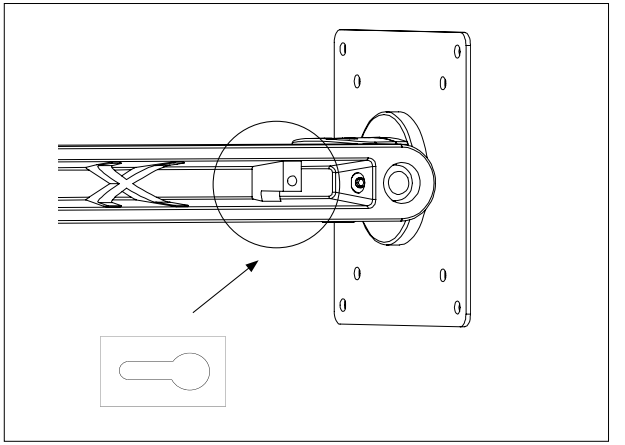
NB: For maximum stability at all magnfication levels, make sure to mount the microscope on a sturdy table.



Mount the microscope to the top of the flex arm using the vesa bracket, screws and handles.



Assemble the flex arm by slotting the two arms together.



Press the cables into place in the slot on the flex arm and secure them by screwing the cable holder into place on top.

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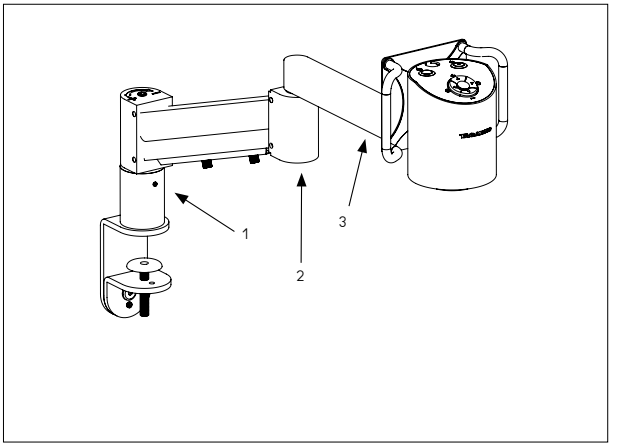
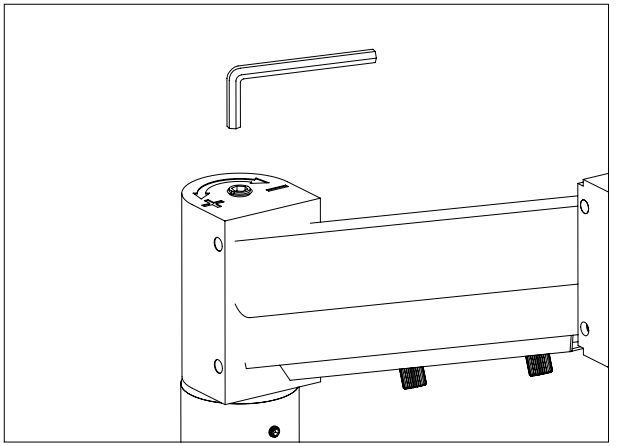
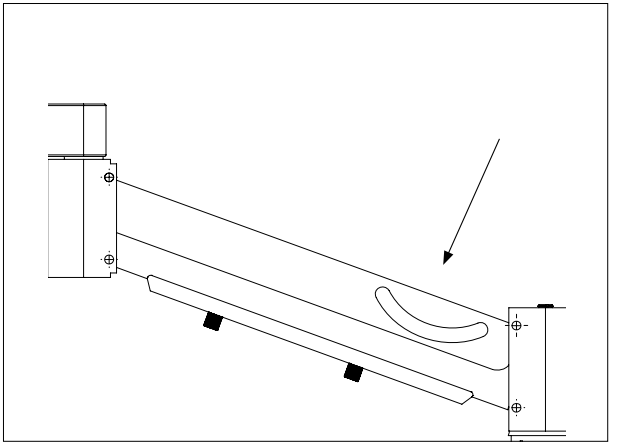


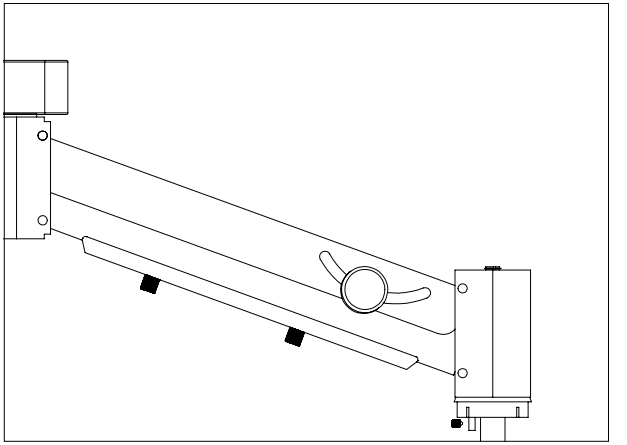
Tighten the 3 pinol screws to remove slack.



To increase stability, adjust the flex arm weight with the included allen key. Turn it clockwise to decrease stability or counter clockwise to increase stability.



For extra stability in locked positions, remove the rubber covering on the side of the flex arm.



Then, use the included finger screw to lock vertical movement.

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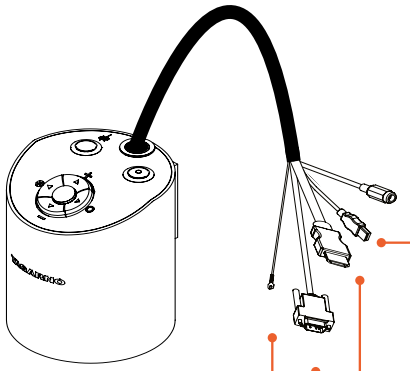
Connecting

Connect cables in the order stated below:



1

Power supply cable (camera head)

Connect cable from camera head to the power supply before connecting the power supply to a power socket.

ESD grounding cable

Connect cable from camera head to grounding outlet.

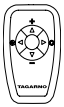
2

Note:
Do not connect the HDMI cable to the computer.

5

USB 3.0 cable

Connect cable from camera head to USB 3.0 output on a computer.



Control box XKEY cable (optional)

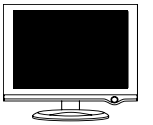
Connect cable from camera head to control box (if you're using one).

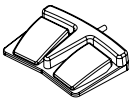
3

4

HDMI Standard Type cable

Connect cable from camera head to monitor.





Foot switch (optional)

Connect cable from control box to foot switch and from foot switch to camera head.

3a

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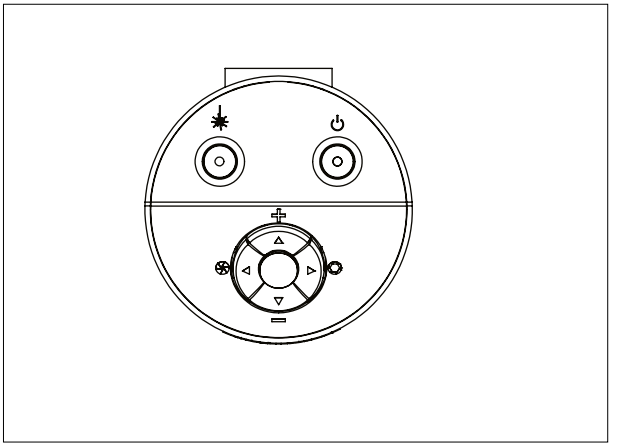
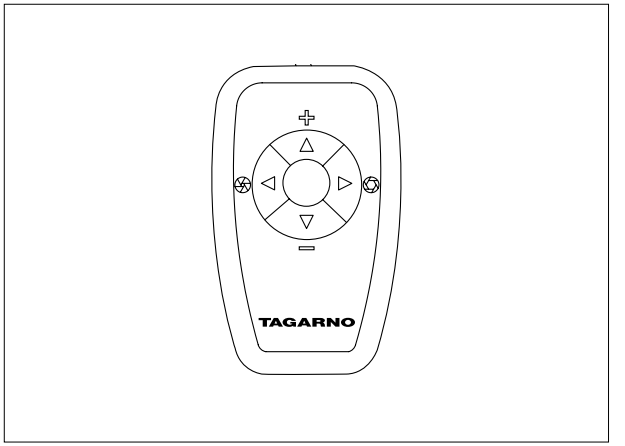
Operation





Camera head	
	Turn off/on.
	Laser on/off. (WARNING! Laser radiation when turned on)
+	Zoom in (when in auto focus mode).
−	Zoom out (when in auto focus mode).
+ −	Push both plus and minus to change from auto focus to manual focus. You can now adjust the focus manually by using the plus/minus buttons. To turn the auto focus on again, simply push both zoom buttons (plus and minus) at the same time.
+	If you wish to focus on something close (when in manual focus mode).
−	If you wish to focus on something further away (when in manual focus mode).

XKEY control box	
	Short push switches between Iris, Gain and Preset mode.
	Increase Iris/Gain or switch between zoom preset 1, 2 or 3.
	Decrease Iris/Gain or switch between zoom preset 1, 2 or 3. To change and save a zoom preset, use zoom buttons to select a zoom level and simultaneously press left/right buttons. OSD will show STORED: PRE(X).
	Hold for 3 sec. to use auto exposure mode.

Reset to factory settings

- Turn the microscope off
- Press and hold the center button down while turning the power on
- Keep holding the center button down for 25 seconds
- Release the center button and turn the power off
- Turn the power back on and the microscope is set to factory setting 1080P60

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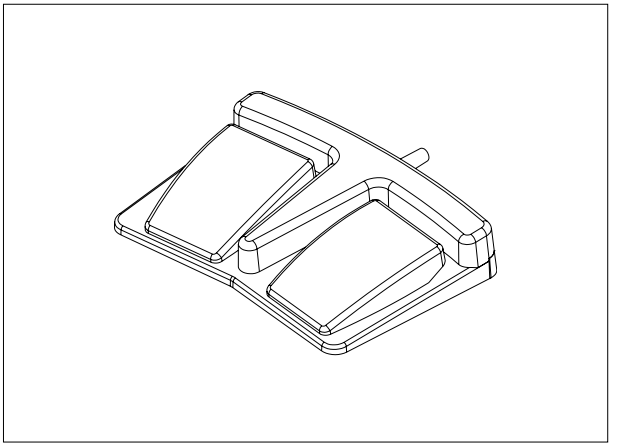
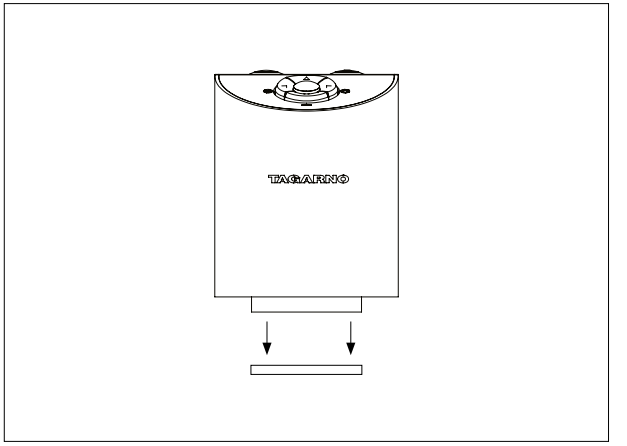


Foot switch

+	Zoom in (when in magnification mode) or focus on something close (when in focus mode)
−	Zoom out (when in magnification mode) or focus on something further away (when in focus mode)
+ −	Push both plus and minus to change from auto focus to manual focus. You can now adjust the focus manually by using the plus/minus buttons

Laser beam (only relevant in the US)



IMPORTANT! Laser beam attenuator. Unmount lens protection cap when using this microscope.

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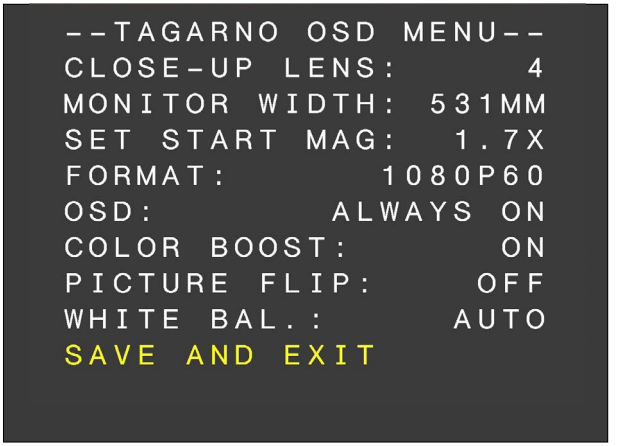
Setup menu



1. Choose lens

Set the current close-up lens by using the left/right arrows on the CONTROL BOX XKEY. On a TAGARNO FULL HD system, the choice naturally is between LENS +2, +3, +4, +5 or +10. LENS +4 is factory default. Continue using the down arrow.

2. Choose monitor width

Press the center button to set up the width of the monitor. You need to measure the horizontal width of the monitor panel on your monitor, Select one digit at a time by using the left/right arrows and adjust the digits with the up/down arrows. Switch between millimeters and inches via the up/down buttons. Monitor 24" FHD is factory default. To store change in settings press the center button.

3. Set start magnification

Select which magnification level you need your system to use as start up level. Press the center button and select one digit at a time in the bottom of the page, by using the left/right arrows and adjust the digits with the up/down arrows. By pressing the center button one more time, you have selected the values chosen. Press the down arrow to choose format.

4. Choose format

You have the option to switch between different video formats, 1080p 60fps being the highest quality. Select the required format by pressing the center button, and use arrow keys left/right to select between 6 different formats.

5. Select OSD presets

You need to choose between respectively ALWAYS ON, OFF or TIMEOUT using the left/right arrows in order to have the OSD Menu displayed continuously, never or for 3 seconds at the time. Continue by pressing the down arrow.

6. Color boost

The OSD menu gives you the possibility to choose between two color settings; Color boost on or off, by using the left/right arrows. Which setting chosen, is a matter of individual preferences and the object projected on screen. Continue by pressing the down arrow.

7. Flip picture

In the menu you have the possibility to rotate the screen image 180 degrees, or choose the standard view by using the left/right arrows. Choose between the two views by pressing the left/right buttons. Continue by pressing the down arrow.

8. White balance

Choose between these settings: AUTO and POWER UP by using the left/right arrows. In AUTO mode the white balance is continuously adjusted to achieve the best color reproduction. In POWER UP mode the white balance calibration is performed only once when the system is turned on. In this mode it's important that a white sheet of paper is visible in the field of view when the microscope is switched on. Continue by pressing the down arrow.

9. Save presets

To save your presets and exit the menu, press the center button and thereby return to the image displayed on the monitor, using your recently saved presets.

If you have changed the various formats, your FULL HD system needs to be restarted. This will be indicated in the bottom if needed.

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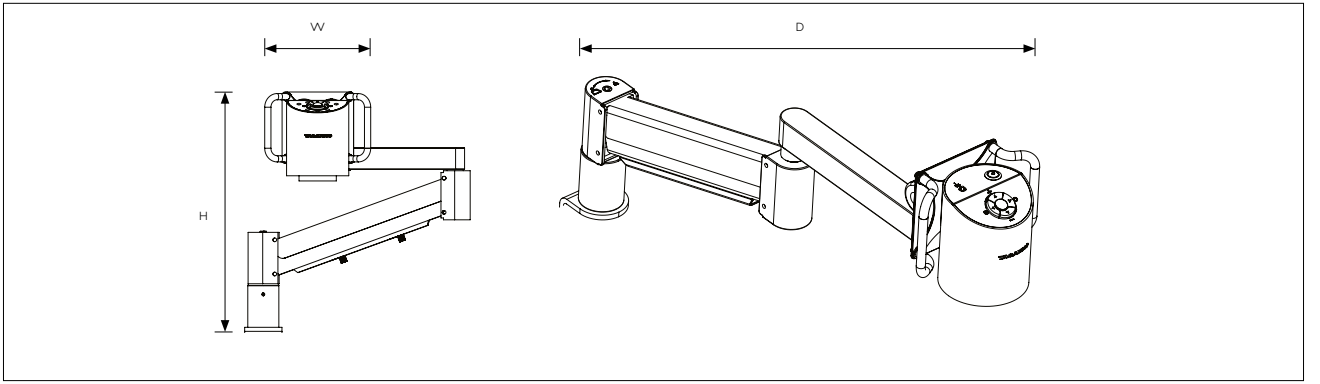
Technical specifications



Camera specs	
• FHD camera resolution	1080p, 1920x1080p at 59,94/50/29,97/25Hz
• HD camera resolution	720p, 1280x720p at 59,94/50Hz
• Camera zoom	30x optical
• Autofocus	Yes
• Auto Monitor Detect	No

Dimensions and weight	
• Height:	539mm / 21.2”
• Width:	160mm / 6.2”
• Depth:	680mm / 26.8”
• Weight (incl. flex arm):	6.5 kg / 14.3 lbs
• Working depth, max:	630mm / 24.8”
• Working height, min:	78mm / 3.07”
• Working height, max:	374mm / 14.72”

Lens	Free working distance	Magnification range	Field of view
• +2	500 mm/19.67”	0.8x – 26.2x	21.0mm – 600.0mm (0.83” – 23.62”)
• +3	333 mm/13.22”	1.3x – 40.1x	13.4mm – 409.0mm (0.53” – 16.10”)
• +4	250 mm/9.84”	1.7x – 53x	11mm – 290mm (0.41” – 11.42”)
• +5	200 mm/7.87”	2.2x – 66x	8.0mm – 245mm (0.32” – 9.65”)
• +10	78 mm/3.07”	4.3x – 133x	4mm – 87mm (0.16” – 3.42”)

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PC requirements

FULL HD 1080P @ 59,94/50HZ		
OS	**Desktop**	**Laptop**
	Windows 7, 8 or 10 (with DirectX 11)	
Memory	8GB	
CPU	Intel® Core™ i5 or i7 @2.4GHz, (4th generation named 4xxx or newer)	CPU: Intel® Core™ i5 or i7 @2.4GHz (4th generation named 4xxx or newer)
Hard Disc Space	1GB required (SSD type recommended)	
Connections	USB 3.0 xHCI host controller (Intel chipset recommended)	
Integrated Graphics	Intel® HD Graphics 4000	Intel® HD Graphics 4400
Dedicated graphics card	AMD Radeon™, HD 7xxx Series with 2GB RAM	nVidia GeForce GT 740M with 2GB RAM
Monitor resolution	1920x1080 (recommended)	

FULL HD 1080P @ 29,97/25HZ AND HD 720P @ 59,94/50/30/25HZ		
OS	**Desktop**	**Laptop**
	Windows 7, 8 or 10 (with DirectX 11)	
Memory	4GB	
CPU	Intel® Core™ Dual@3.0GHz or i3@2.4GHz, (4th generation named 4xxx or newer)	Intel® Core™ i3 @ 3.2GHz, (4th generation named 4xxx or newer)
Hard Disc Space	1GB required (SSD type recommended)	
Connections	USB 3.0 xHCI host controller (Intel chipset recommended)	
Integrated Graphics	Intel® HD Graphics	
Dedicated graphics card	AMD Radeon™, 1GB ram	nVidia GeForce GT 1GB RAM
Monitor resolution	1920x1080 (recommended)	

SOFTWARE RECOMMENDED

Windows 7	Youcam 7
Windows 8	Windows 8 Camera App
Windows 10	Windows 10 Camera App

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Maintenance

- Store and use the product in a dry, clean and ventilated room.
- Do not place the product in direct sunlight, next to a radiator/heater or some place where the system may be subjected to liquids.
- All plugs are designed to be used in one way only. Therefore, you should never use force when you connect the system.
- Remember to disconnect all elements if you intend to move the product.
- If you move the product from a cold to a hot room, you must wait at least an hour before you turn it on, to avoid short circuits due to condensation.
- Remove the cables by pulling the plug itself – never by pulling the cable.
- If the product needs repair, never do it yourself, contact your distributor.
- When cleaning the product, please turn off the system and wait untill the system has cooled off.
- Clean the product with a damp cloth. Never use strong cleaning agents or chemicals – these may damage the microscope.
- Clean the lens regularly with isopropyl alcohol and a microfiber cloth or with the TAGARNO cleaning kit.

Warranty

Warranty terms for the product shall be as follows:

TAGARNO warrants that the product will correspond with the specification at the time of delivery and will be free from defects in material and workmanship for a period of 24 months (2 years) from date of invoice from Supplier.

This warranty covers:

a. The replacement of defective parts.
b. All labour costs to exchange defective parts in product.
c. Complete functions test of product before return to end user's site.
d. Return transport costs of product from TAGARNO to end user's site.

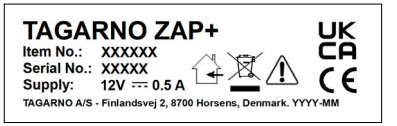
The warranty only applies if the product is packed, shipped, stored, handled and maintained correctly.

Failures due to improper packing and transport are not covered. Failures due to drops and sudden blows are not covered.

Failures due to storage and handling in extreme high or low temperatures are not covered. Failures due to storage or handling in extreme high humidity are not covered.

Labels

Values marked with X varies from product to product and are replaced by specific numbers and letters.



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Declaration of Conformity

TAGARNO A/S
Finlandsvej 2
8700 Horsens
Denmark

PRODUCT

NAME	MODEL	DESCRIPTION
TAGARNO FHD ZAP+	690600	Inspection Camera Unit

DIRECTIVES/STANDARDS

TAGARNO A/S hereby declares that the product listed above, complies with the following directives:

DIRECTIVE	
2014/35/EU	Low Voltage Directive
2014/30/EU	Electromagnetic Compatibility (EMC)
2006/25/EU	Artificial Optical Radiation
2011/65/EU	Restriction of Hazardous Substances (RoHS)
2012/19/EU	Waste Electronical & Electronic Equipment (WEEE)

By conforming to the following harmonized standards and regulations:

STANDARD/REGULATION	
IEC 60825-1:2014	Class 2 / Safety Of Laser Products
IEC 61326-1:2013	Class B / Basic Electromagnetic Environment
IEC 61326-2-2:2013	EMC requirement for electrical equipment
IEC 61010-1:2010	IECEE CB Scheme Ref. Cert.No. NO104184
EC 1907/2006	Registration, Evaluation, Authorisation & Restr. of Chemicals (REACH)
FCC / IC	Part 15 Class A / CAN ICES-3 (A)/NMB-3(A)

ISSUED BY

MANUFACTURER	DATE (DD/MM-YYYY)
TAGARNO A/S	01/04-2026

SIGNATURE

Anders Ravnskjær Pedersen
Director of R&D and Product Management

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Questions?

If you have any questions about your microscope, don't hesitate contacting your local distributor or one of our offices in Denmark and United States.

CONTACT US

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info@tagarno.com

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