MANUAL
TAGARNO FHD ZIP

VERSION: 1.9 | FIRMWARE 5.8 | 2020-09-15

CONTENTS

Go to tagarno.com/productmanuals to find manuals and tutorial videos.

TAGARNO

1. INTENDED USE

The product is a digital magnifying system consisting of a camera unit, PCBs, mechanical parts and a power supply. The product is intended for marketing worldwide and is designed for manual visual inspection.

2. 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.

1. Read the manual before you use the product
2. Use the product only as specified, or the protection supplied by the product can be compromised
3. Do not position the equipment so that it is difficult to operate the disconnecting device (appliance inlet of external power supply, equipment input connector)
4. If fluids are spilled on the product, turn the system off immediately by pulling the power supply out of the electrical outlet
5. In case of fire close to the microscope, please turn off and disconnect the system
6. Avoid subjecting the lens to sharp or hard objects
7. Please do not connect the microscope, if visible damages appear
8. Do not dismantle any parts of the microscope, except where noted in the manual
9. Never disassemble or clean internal optical surfaces
10. Use only the power supply provided from TAGARNO
11. Always turn off the system before unplugging, when possible
12. Do not touch the light source. It gets hot when using the product
13. Do not look directly into the light source

CAUTION, HOT SURFACE: The inside of the camera head might be hot.
To reduce the risk of injury from a hot component, allow surface to cool before changing the close-up lens.
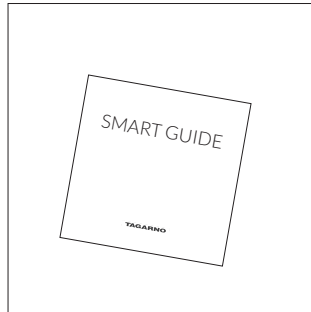
WARNING: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take appropriate measures.
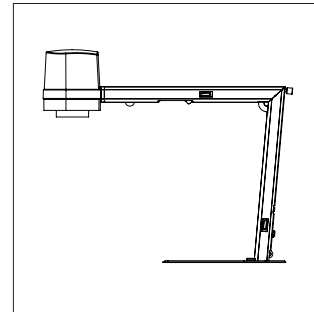
3. TIPS
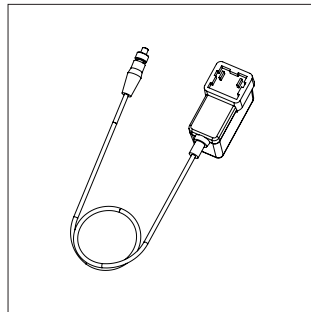
1. Avoid touching the lens glass
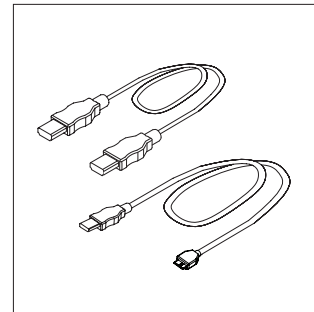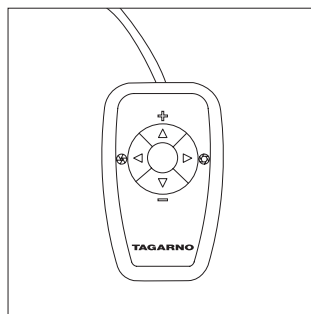
4. YOU HAVE RECEIVED

SMART GUIDE

Smart guide

Microscope with lens

Power supply

Mini HDMI-HDMI Cable
Micro USB 3.0 Cable

XKEY Control box

5. ASSEMBLING

Unfold the device and rotate the camera head 90 degrees so the
lens points downwards.
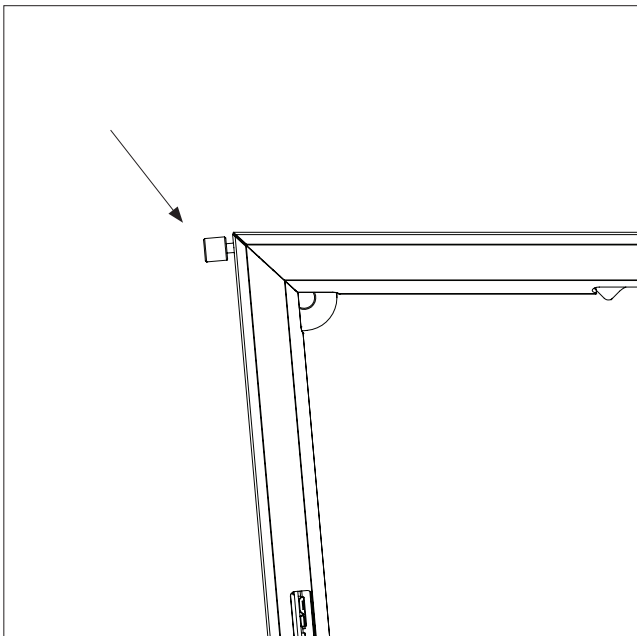
Lock the device by fastening the screw.

6. CONNECTING
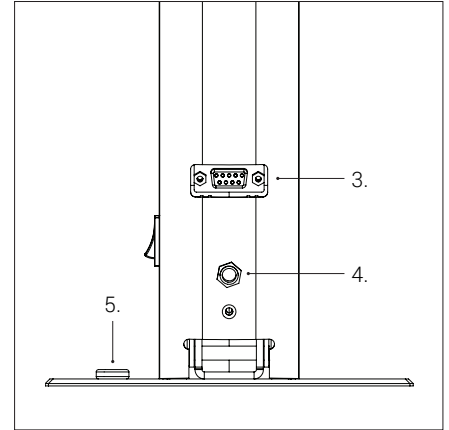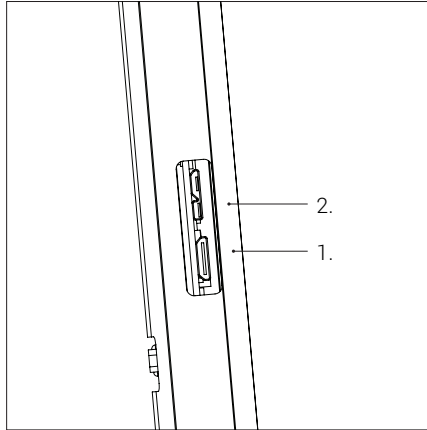
Connect HDMI cable (1) and USB 3.0 cable (2).

WARNING! Do not connect the mini HDMI cable to a PC. Please do not use force when inserting the cable plugs

Connect the control box (3), power supply (4) and ESD - Electro Static Discharge (5).

Connector	Description	Type	Connect to	Specification
1	Output	Mini HDMI Type C	Monitor	HDMI out 720p50, 720p60, 1080p25, 1080p30, 1080p50, 1080p60
2	USB 3.0 output	Micro USB 3.0 Type B	Computer	USB 3.0 Device, Self-powered
3	Control box	D-SUB 9-Pin Female	Control box	Output: 3.3V ⎓ 330µA ⚠ **Use only control boxes supplied by TAGARNO**
4	Power supply (DC)	DC Jack	Power socket	Input: 12V ⎓ 1.0A ⚠ **Use only the power supply provided by TAGARNO:** Brand/Model: Mean Well/GEM18I12 ▣ Protection Class II Input: 100-240V ~ 0.45-0.2A, 50/60Hz Overvoltage category ll Output: 12V ⎓ 1.5A Max
5	ESD	Snap Socket, 10mm.	ESD Grounding point	ESD Grounding point

7. OPERATION

## OPERATION | CONTROL BOX (1/3)

TIP!
Find the "How to Use" tutorial video here: www.tagarno.com/usezip
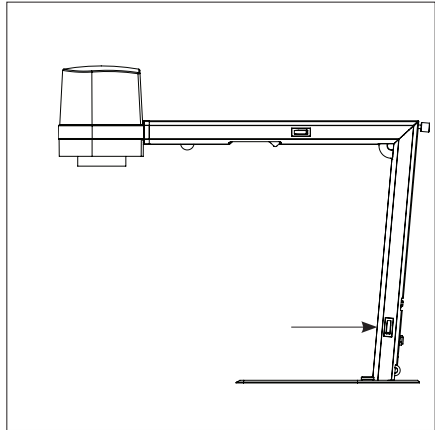
Power on/off

Light on/off
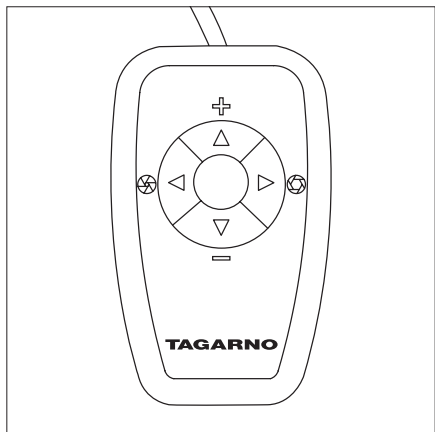
Multi function buttons. Do only connect
equipment distributed by TAGARNO

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.

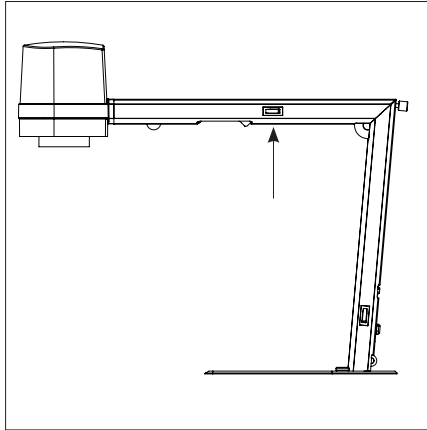To change and save a zoom preset,
use zoom buttons to select a zoom
level and simultaneously press
left/right buttons. OSD will show
STORED: PRE(X)

Hold down for 3 seconds to use
auto exposure mode

+ Zoom in

− Zoom out

+/− Push both plus and minus to switch
from auto focus to manual focus.
You can now adjust the focus
manually by using plus/minus

+ If you wish to focus on something
close

− If you wish to focus on something
farther away

RESET TO FACTORY SETTINGS

Follow this procedure to change back to factory
setting 1080P60.

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

When turning on your FULL HD system, you are informed of the given units, serial number (SN), version and resolution.

1. Open the OSD menu
To open the TAGARNO On Screen Display Menu, press and hold down the center button for approximately 5 seconds.

```
--TAGARNO  OSD  MENU--
CLOSE-UP  LENS:        4
MONITOR  WIDTH:  531MM
SET  START  MAG:    1.7X
FORMAT:        1080P60
OSD:        ALWAYS  ON
COLOR  BOOST:        ON
PICTURE  FLIP:      OFF
WHITE  BAL.:      AUTO
SAVE  AND  EXIT
```
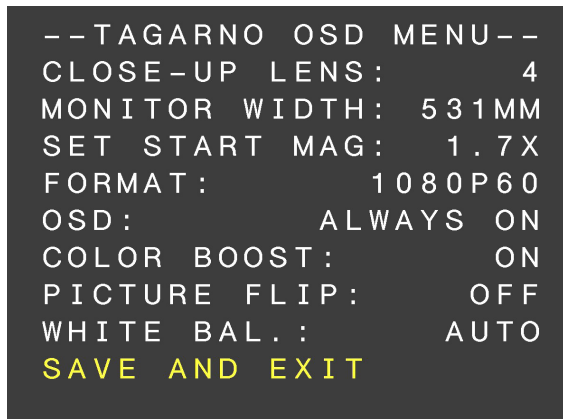
2. Choose lens
Set the current close-up lens by using the left/right arrows on the XKEY Control box. The choice is naturally between LENS +3, +4, +5 or +10. LENS +4 is factory default. Continue using the down arrow.

3. 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 modified settings, press the center button.

4. Set start magnification
Select the magnification level you wish 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.

5. 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.

6. 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.

7. 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.

8. Picture flip
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.

9. 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.

10. Save and exit
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.

8. TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS (1/2)
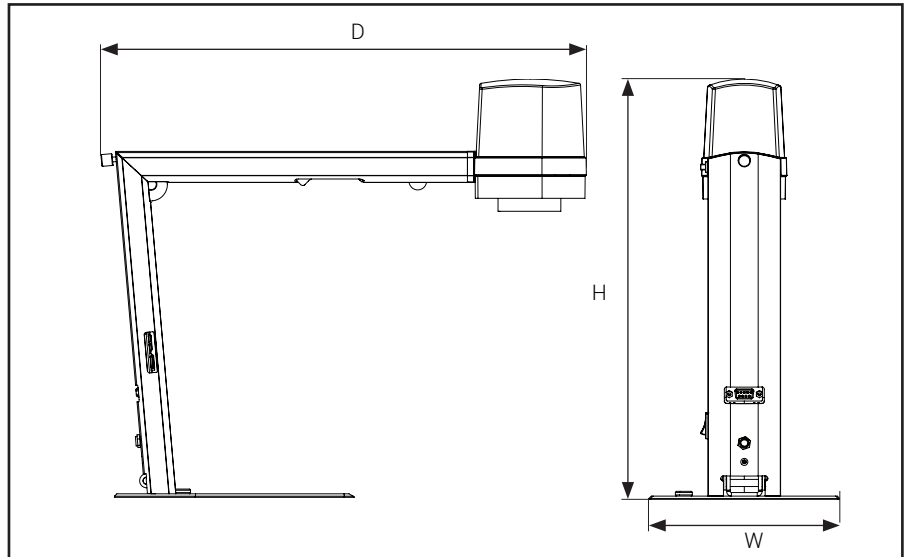
Dimensions	H: 350mm/13.78″	
	W: 155mm/6.10″	
	D: 386mm/15.20″	
Weight	2.0 kg/4.4lbs	
Camera resolution	FHD 1080p, 1920x1080p at 59,94/50/29,97/25Hz	
	HD 720p, 1280x720p at 59,94/50Hz	
Camera zoom	30x optical	
Autofocus	Yes	
Work height	245mm/9.65″	
Work depth	280mm/11.02″	
Built-in light	Color temperature: 4000K	
Auto Monitor Detect	Yes	
Plug connection	Mini-HDMI & Micro-USB 3.0	
Power requirements	Line voltage	100 - 240V ∼ ± 10%
	Line frequency	50/60Hz
	AC current consumption (typ.)	130mA/100V∼ 55mA/240V∼
	DC current consumption (typ.)	1.0A/12V ⎓
Environmental conditions	Temperature	Storage -5 to 60°C / 23 to 140°F Operation 5 to 40°C / 41 to 104°F
	Humidity range	Storage 20 to 90% RH non-condensing Operation 30 to 80% RH non-condensing
	Altitude	0 to 2000m / 0 to 6500ft above sea level
	Pollution degree	2
ESD	ESD Grounding Point	

TECHNICAL SPECIFICATIONS (2/2)

LENS

Dimensions	58 mm/2.3"
Included lens	+4

LENS	Lens to object distance	Magnification on 24" monitor
+4	250mm/9.84"	1.7x - 53x

FIELD OF VIEW - MINIMUM & MAXIMUM

	MINIMUM	
Lens	X-Direction	Y-Direction
+4	290 mm / 11.42"	163.10 mm / 6.42"
	MAXIMUM	
	X-Direction	Y-Direction
	10.50 mm / 0.41"	5.91 mm / 0.02"

RECOMMENDED MONITOR FORMAT

Panel format	16:9 (Widescreen)
How to link	HDMI input
Response time	2 ms
Signal format	FHD 1920x1080

ACCESSORIES

FHD monitors per request
TAGARNO Ring light White
TAGARNO Ring light UV
TAGARNO Ring light IR
Backlight kit
Coaxial light
Cleaning kit
Circular tilting table
Height Adjustment Table
XY table
Foot switch

9. 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

10. 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.

11. 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.

12. ERGONOMICAL RECOMMENDATIONS

Please be careful when carrying the product from one place to another.
Please do not lift the microscope by grabbing the camera arm.

All TAGARNO products are marked with a product label:

TAGARNO FHD ZIP
Model No.: XXXXXX
Serial No.: XXXXX
Supply: 12V === 1.0 A
TAGARNO AS - Sandøvej 4, 8700 Horsens, Denmark. YYYY-MM-DD
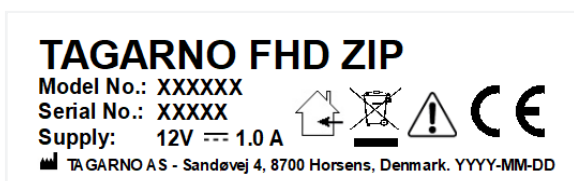
Values marked with X varies from product to product and are replaced by specific numbers and letters.

PRODUCT
MODEL   TAGARNO FHD ZIP | Type no.: 600600
ART   Inspection camera unit

MANUFACTURER
NAME   TAGARNO A/S
ADRESS   Sandøvej 4
ZIPCODE/CITY   8700 Horsens
COUNTRY   Denmark
PHONE   +45 76251111

CE

DESCRIPTION
TAGARNO A/S hereby declares that the product listed above, consisting of a camera unit
and a 12V power supply, is in compliance with the following European directives:

2006/25/EU   **Artificial Optical Radiation**
2014/30/EU   **Electromagnetic Compatibility**
2014/35/EU   **Low Voltage Directive**

By conforming to the following harmonized standards:

IEC 62471:2008   **Risk Group Exempt**
EN 61326-1:2013   **Class A / Industrial Electromagnetic Environment**
IEC 61010-1:2010   **IECEE CB Scheme Ref. Certif. No. NO103722**

THE DECLARATION IS ISSUED BY
MANUFACTURER   TAGARNO A/S

TAGARNO

14. COMPLIANCE STATEMENTS

INDUSTRY CANADA COMPLIANCE STATEMENT

CAN ICES-3 (A)/NMB-3(A)

This Class A digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe A respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

FCC COMPLIANCE STATEMENT (UNITED STATES)

Federal Communications Commission (FCC) Statement
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.